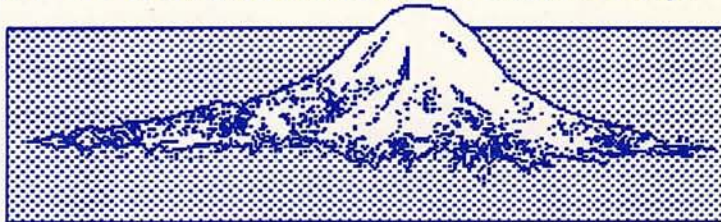


THE PACIFIC NORTHWEST'S
INTERNATIONAL NEWS MAGAZINE
FOR THE ATARI™ COMPUTER
USER AND ENTHUSIAST

PUGET SOUND ATARI NEWS

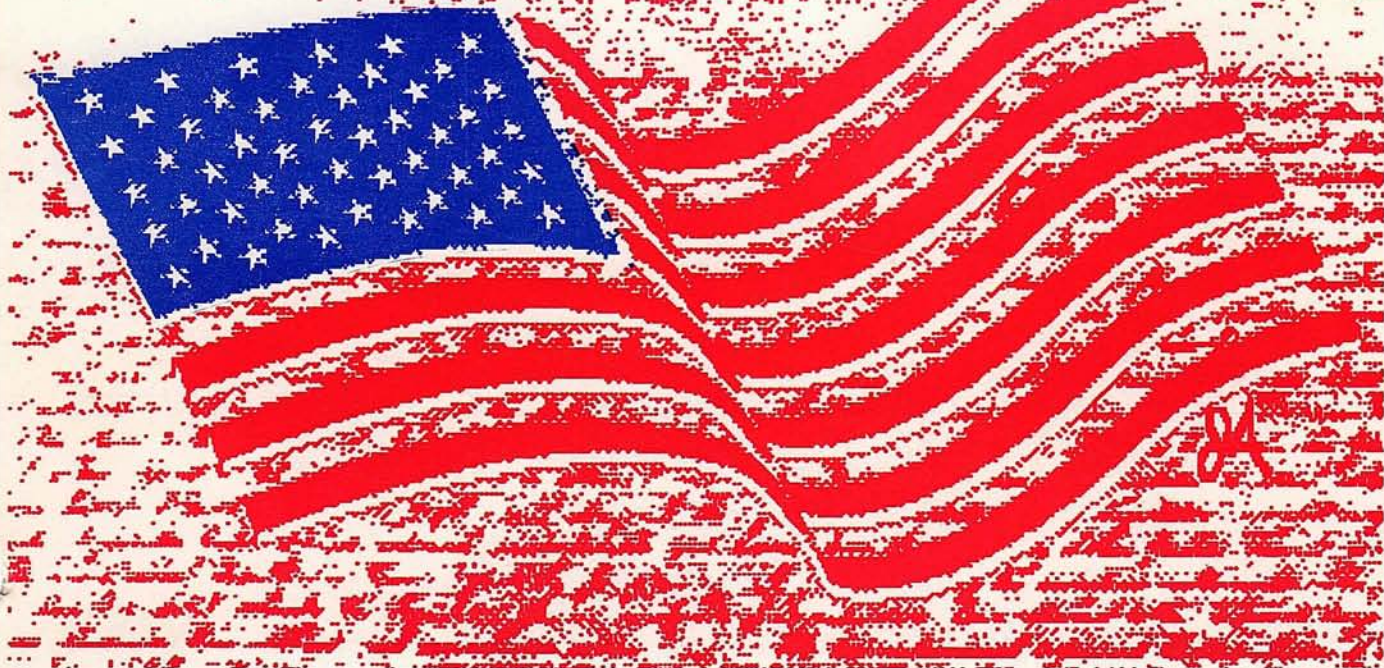
July 1987
\$2.00

BROUGHT TO YOU BY THE B.R.A.C.E., KC-ACE, "R"-ATARI,
S"P"A"C"E, StarBase, STDIO, AND T.R.A.C.E. USER GROUPS



IN CONGRESS, JULY 4, 1776

DECLARATION OF INDEPENDENCE





ATARI®

Sales Service Support



Atari 520 ST System Prices

Monochrome

Color

\$599.95

\$799.95

- * 512k RAM
- * 192k ROM
- * External SS/DD 3 1/2" drive
- * Full stroke 94 key keyboard
- * Built in
 - RS232C Serial port
 - Centronics parallel
 - Midi in/out ports
 - DMA port (for hard-drive)
 - Cartridge port
 - Floppy drive port
 - Mouse port
 - Joystick port
- * 2 button mouse
- * 640x200 resolution (color)
- * 640x400 resolution (monochrome)
- * 512 colors (color)
- * 10 Function keys
- * 16 bit Motorola 68000 CPU

Butler's Includes!!!

- * 10 Pk. Starter kit (10 disks full of pd software!!!)
- * 6 outlet surge protector!!!
- * We extend the warranty to a total of 6 months!!!

Butler's Computer Service

28717 Pacific Hwy. South
Federal Way, Wa 98003

Seattle # 622-2559

Federal Way # 941-9096

Monday – Friday 9:30–8:00 Saturday 9:30–5:00

The Puget Sound Atari News is a compilation of club news, hobby and industry news, and articles about the Atari computers and supporting software and hardware. PSAN does not knowingly reprint copyrighted materials, without getting and/or giving proper credit, and respects all copyrights. Original material contained herein may be reprinted by other users groups provided the authors and PSAN are credited. The articles submitted are solely the views and responsibility of the author and do not necessarily represent the opinions of PSAN or those of any other group.

Advertising:

RATES: Full Page - \$25, Half Page - \$15, Quarter Page - \$10, Business Card - \$5, Back Cover - \$40, Inside Cover/Centerfold - \$35/pg. An added 10% discount is given for advance purchase of 12 consecutive ads (and, if Full Page in size, the desired page/cover placement will be guaranteed).

Send camera ready copy and payment by the 15th of the month preceding publication to S*P*A*C*E, Attn: PSAN Advertising Manager, PO Box 110576, Tacoma, WA 98411-0576; or take to any participating club.

Circulation in June: 660 (Members 540, Stores 70, Exchange 40, Other 10)

Article Contributions: On disk (8 bit or ST), AtariWriter/ST Writer format preferred, to any participating Editor or club BBS. Submissions will be returned if stamped mailer included.

Printing by: MINUTEMAN PRESS, 6211 Mt. Tacoma Dr. SW Tacoma, WA 98499, phone 588-3697

Puget Sound Atari News Editorial Staff

Coordinator
Jim Chapman, (206) 582-4269

BRACE Editors
Max Pinton (455-3548) & Wally Wong (641-1866)

KC-ACE's Editor
Darren Tonnessen, (206) 842-3992

R-ATARI Editor
Greg Barnes, (206) 678-6305

S*P*A*C*E Editor
Chris Carson (206) 472-6872

STARBASE Editor
Al Cummings, (206) 784-8658

STDIO Editor
Joel Check, (206) 881-9375

TRACE Editor
Terry Schreiber, (604) 272-5789

ADVERTISING MANAGER
Tom Neitzel, (206) 473-0187

Front cover design and artwork by Jim Adams, STDIO

PUGET SOUND ATARI NEWS

July, 1987

Volume 4, Number 7

CONTENTS

NEWS

2	PSAN Update.....	Jim Chapman
2	General Notes (Editorial).....	Al Cummings
2	STARBASE "MOD" Clinic.....	Al Cummings
3	WORLD OF ATARI Show Report.....	Carolyn Caine
4	ATARI Events - The Chicago CES.....	James D. Yee
4	Toys R Us and ATARI.....	Carson & Berry
4	ATARI Software Comes To Bremerton.....	John Fernandes
25	Club News	
27	Classified Ads	
BC	Activities Calendar	

REVIEWS

5	Roadwar 2000 (ST Game - 2 Articles).....	J. Yee & J. Fernandes
6	Happy IBM File Converter (8-Bit Utility)...	Tom Neitzel
6	'86 Whole Earth Software Catalog (8-Bit)...	Kit Carson
7	Goldrunner (ST Action Game).....	William Estes
7	Regent Spell (ST Spell Checker).....	George Terpening
8	10th Frame (ST Bowling Game).....	William Estes
9	Easy Draw 2.0 (ST Utility).....	George Terpening
11	LabelMaster Elite Is! (ST Print Utility)...	Carolyn Caine
13	The Dragon's T.A.I.L. (8-Bit Game).....	Penny Ormston

FEATURES

10	Chess Wars! (Analysis of ST Chess Games)...	Dr. Bruce D. Noonan
12	EA - Slashing Prices To The Bone.....	Penny Ormston
12	Dear Chip (Humor).....	"Chip"
13	Lateral Thinking (Logic).....	Earl Nightingale
14	Challenger 1200 Modem & Other 8-Bit Stuff...	Nick Berry
14	XM301 Modem Warning (8-Bit Hardware Fix)...	Atari Federation
15	Video 80 Software 80 Column 800XL Fix.....	Michael Bjorkman
16	Light Pen Anyone? (8-Bit Hardware).....	Thomas Lawless
18	The Laser Printer Dilemma (Analysis).....	William Price
22	The Freeware Concept.....	Thom Lawless
23	One For The Phone (Hardware Project).....	Chemical Kidd
23	Old Dog - New Trick! (Humor).....	C. Robert Brim
24	Atari Laser Printer Sample.....	Atari Corp.

ADVERTISERS

IFC	Butler's Computer Service.....	(206) 941-9096
8	Precision Electronics.....	(206) 885-7637
9	Xanth Corporation.....	(206) 643-9697
IBC	Best Electronics.....	(408) 243-6950

Puget Sound Atari News

PSAN UPDATE

By Jim Chapman

In as much as this month is special (Independence Day - July 4th) and our printing budget allows us a fair amount of flexibility, we have opted to also introduce a glossy cover page printed with multi-color inks. Hope you like these changes - more will certainly follow as we expand our knowledge and abilities.

Laser printing is a hot item these days and the PSAN staff has started to explore it's possibilities. Portions of this issue has been produced on a variety of laser printers. Jim Adams of STUDIO seems to be the first local Atariian to have jumped on the laser bandwagon. We delayed printing the newsletter so that Jim could use his newly purchased HP Laser Jet II to produce the outstanding cover and graphics image that he created for this month's cover. And while discussing laser printers, we just couldn't resist reprinting William Price's excellent article out of the June 1987 CURRENT NOTES. It provides an in-depth explanation of the interrelationship of desktop publishing software, laser printers and associated font libraries. We've also included a sample page of output from the forthcoming Atari SLM804 laser printer. This obtained from the WORLD OF ATARI expo in Santa Clara, CA on June 19/20.

PSAN newsletter costs have been pleasantly low, thanks to the cooperativeness of our printers (Minuteman Press in Lakewood). For the first half of 1987 our net production cost per issue (printing costs minus advertising revenues) has averaged 75 cents. Because we chose to collate the June issue ourselves (to speed production), it was the cheapest issue yet - costing only 64 cents each. Bulk mail postage adds another 13-15 cents per issue. Being well within our budget limit of an average annual cost of one dollar per issue mailed; we can afford to spend the additional 14 cents (possibly less in the future) per issue for this month's fancy covers. Please pass along your opinions on this matter.

Would you like to be a regular columnist for this newsletter and be willing to write about a favorite topic six or more times a year? PSAN needs such individuals. Certainly, amongst our collective membership are many individuals who have the requisite knowledge, writing skills and motivation to perform this function. Benefits include wide recognition and the chance to work with new products sent to PSAN for review. If interested, contact myself or any of the editorial staff.

GENERAL NOTES

Editorial by Al Cummings

Being an editor has its advantages at times. You get to read a lot of the articles before the newsletter comes out, which ruins it for me when it does get to my mailbox, but you do get to remember all those things you had forgot to mention in your first article.

Special Offer to all PSAN readers. Joe Waters, Publisher of CURRENT NOTES, has offered a special user group sign-up for their fine newsletter. If you have never seen this one, you have missed out on the best newsletter in the country! It often ranks above what the two Atari magazines have to say that month. For the low sum of \$17 you'll get ten issues of their work (a \$3 savings). Check with one of your group's officers for specific details. This is the second best deal in the country - PSAN at 12 issues for \$15 is *numero uno*!

'MOD' CLINIC

By Al Cummings, STARBASE

Starbase is sponsoring it's first Atari "Mod" Clinic on July 18th at Precision Electronics in Redmond. Sam Sieben, owner, has offered the use of equipment and some help in making hardware modifications to various computers and so on. The group has gotten some input on which mods people want done and is currently getting together an order for the needed parts. So be sure and call before you come to make sure we have what is needed for your machine.

The Atari 800 288k ramdisk will be first up, so bring your computer and make it as powerful as the newer machines! Not only do you get a large ramdisk, but there are several programs that use the extra RAM space in their programs. There will be people working on machines and someone there will show you how to use the new memory with different programs. The price will include at least one disk full of software ready to use and tested on this mod. Never a problem like doing it and not knowing if it works and how to get to the extra RAM. We are not sure of the cost yet, but I bought the mod parts and everything else needed for about \$30. So figure about that as the group is not planning to make money doing these upgrades.

I will call those people who signed up and if you don't hear from some one, be sure and call to make sure we have your name and phone number, if you did not get a chance to sign up, be sure call me as soon as you read this to make sure we have enough parts for everyone.

There are more clinics planned and the August session will be for 800XL as soon as we decide which mod looks like the best one to offer. Also if you have something you want put in and if we have time we can help with that also, but 'the computer mod of the day' comes first. The 800 mods will take some time, so come early and be prepared to stay for a few hours.

This also will be a good time to bring in that VCR for a tuneup or drop off any other repairs you need to have done. Precision Electronics is the eastside's best spot for Atari repairs. See you all there and more memory to all.

Call big Al 784-8658 or Steve 782-3691. Please do not call the store about these mods.

(Continued on next page, bottom of column two)

We are getting closer to the joint group in the area with all the goodwill generated at Atari Trek paving the way. The library will be next in the offering with help to all clubs and more of everything for no more effort on the club librarian's part. If you are interested in this part of PSAN, talk to Jim Chapman or myself to find out what you can do to help.

All the club's are having special meetings lately and if they work as planned we all get through the summer and are ready for the fall growing season. The user groups seem to grow in September and then again after the first of the year and with a good head of steam we could break the 700 mark this year. Nothing but good comes out of having more members. Ask a friend to join you in some of the fun things coming up.

All the ideas I came up with are gone now, so I will leave and see you in the Atari fast lane.

Puget Sound Atari News

WORLD OF ATARI Show THE NEW PRODUCTS ARE REAL!!

Santa Clara, California, June 19th and 20th

By Carolyn Caine, S*P*A*C*E

June 22nd. As the PSAN newsletter is going to press immediately, this report will only be a brief overview of my trip to Santa Clara and this past weekend's WORLD OF ATARI show.

The WORLD OF ATARI, conducted by a consortium of the San Francisco Bay area Atari users groups, is the first of Atari's new regional type expositions. These shows will probably be fewer in number (encompassing larger geographic areas), bigger (with increased vendor participation) and include greater involvement by Atari Corporation. WORLD OF ATARI is also significant in that it was supposed to include all of the promised new Atari items which had not yet been shown in the US. Atari had also assured the local groups that the 8-Bits would be well represented. The show was held in the new Santa Clara Convention Center on Friday and Saturday, June 19th and 20th, from 10AM to 6PM each day. The theme of WORLD OF ATARI was 'applications'.

ATARI showed its earlier announced products in fully operating versions and indicated that the actual release dates are days to a few weeks away. No one was giving firm dates, but the Mega's should be shipping to developers immediately with shipments to dealers to follow in the next 3 weeks or so. On display was the Mega ST4, the laser printer in full operation and the PC compatible with monochrome monitor, mouse, hard drive and an EGA compatible color monitor. The hard drive and the color monitor were not intended to be part of the Atari PC package according to the fellow demonstrating it at the time (the monitor will not carry the Atari name at least at present. LOTUS 1-2-3 was running on it. The color monitor looked good. I believe it was a Goldstar (I think they make the current Atari monitors). The retail price was indicated to be about \$500. There were no firm prices given on the equipment being shown. ATARI representatives were still quoting the "under \$3000" price for the laser printer and Mega ST (which Mega ST?). The PC's desktop system looked similar to the Atari's, but I presume it is the new and frequently criticized interface being used with the other IBM compatibles.

The Mega ST ran well both with and without the blitter, which is switchable from the desktop. It is a neat looking machine, although I wonder about the placement of the joystick and mouse ports which are separate and somewhere around the middle of the back of the keyboard. The laser printer was running and churning out printouts which the crowd was allowed to keep. These looked very good - one is available for your inspection elsewhere in this newsletter. Laser printer specs indicate that the toner had to be changed every 3000 copies and the drum at about 10,000 copies. There appears to be a small interface box between the printer and the computer which plugs into the DMA port. MICROSOFT WRITE was running on the machine. It took approximately 30 seconds for the first printout which was a description of the system. After that, copies came more rapidly, but I had expected the machine to run a little faster than it did. I am not familiar with laser writers, however.

One of the most exciting new pieces of hardware-software showing was the IMG Scanner. This device hooks to your printer by simply taping it to the printhead and then plugging it into the cartridge port of the computer. The IMG Scanner

scans any picture that you can run through the printer and saves it in D.E.G.A.S. or Neochrome format. Some of the saved pictures were in color; although I am unsure if the machine did it, or if they were later enhanced with Neo or D.E.G.A.S.. The IMG Scanner was sold out before 11:30 the first day! Mail orders will take about 3 weeks. The cost is \$99.95 (Ed., This was incorrectly stated in the June PSAN). The IMG Scanner should be available at the dealers as soon as the orders taken at the show are filled. Needless to say, I immediately ordered one. There was a fancier scanner there, capable of 300 dpi, but it sold for \$1295 which I thought was a little steep for my use.

Contrary to popular rumors about the Bay Area clubs boycotting the show (you know true enthusiasts can't stay away from an Atari show, much less one with the promise of seeing the new machines), all of the clubs were there in full force; and, according to Neil Harris of Atari, were the primary organizers of the event. Neil also stated that over sixty different vendors participated in the WORLD OF ATARI. The Santa Clara facility is very nice with plenty of room for other parts of the program. I felt the show lacked some of the excitement of the Seattle show (Atari Trek '87), but I only spent 5 hours there. I saw several other Seattle area folk including Dave Showalter, Mark Steed of Butler's and Bryan Roal, who along with me took a video tape of some of the show. I also understand Scott McGowan was there, but I didn't see him.

The San Jose police had a booth there. They are apparently setting up a BBS in cooperation with Atari that will provide public service and job availability information. MICHTRON provided the software.

Brad Koda, our friend from BEST ELECTRONICS, was there and seemed very busy, although he had earlier said he wasn't planning on going. There were several computer stores, MIDI music and an ADAP set-up making engine sounds. PUBLISHING PARTNER, FLEET STREET and EASY DRAW were there each trying to show why their product was best. Educational programs were very limited, and I saw no evidence of new programs. BRODERBUND was showing their soon to be released and greatly enhanced version of PRINT SHOP, KARATEKA, and ART DIRECTOR together with an animation program. More 3-D CAD. There were more free issues of the current ST INFORMER from Grants Pass, OR. It looked really good. I'm sure there was more, and perhaps some of the others who attended can share what they saw and heard. All in all it was a very interesting show.

One last thing, ATARI was showing a television commercial (two in fact) that they are currently running in test markets. These looked pretty good. The commercials were aimed directly at the IBM and Apple Macintosh markets. Maybe we will see them by fall.

ERRATA: In the May issue we mentioned that Precision Electronics picked up repairs at Family Computing. Wrong! Family Computing has a different source for their repairs and the pickups are done though Family Video. It pays to listen to what the man says.-ed.

Puget Sound Atari News

ATARI EVENTS - The Chicago CES On the Road with Atari By James D. Yee, BRACE

As the dust and excitement of ATARI TREK 87' was just begining to subside, the Atari road crew was preparing for CES in Chicago. The Consumer Electronics Show is the 12th show this year for the group that represents the the most visible form of Atari Corp's marketing dollars.

The Atari CES motto 'flying high' was proudly displayed, on silver aviator's wings mounted high on walls and lapels of show attendees. Guests were invited to fly flight simulator II in a real cockpit located in the Atari booth. For those that were not satisfied with just the simulator, there was a real plane on top of the booth to explore. The trip upstairs was well worth the time, as that qualified the guest to a drawing for a trip to Paris.

Since CES is primarily a consumer oriented Hi-tech show rather than a computer show, Atari's main emphasis was toward the game aspects of their computers. In the center of the display area was a tunnel display with rows of the remodeled 2600 vcs's and the 7800 super games systems. Flanking the game tunnel there were a pair of 65XE's demonstrating the new Atari double sided and full double density disk drive, and ICD was demonstrating the speed of their peripherals with the Atari 80 column card. Though not many were invited to this show, since space was limited, 10 ST developers were scattered throughout the booth.

For new products the Mega ST's and laser printers were noticibly absent, but a couple of the Atari PC's were running graphics in a corner. The XE game system was the only real new product unveiled at this show. Included in the XE game system is a new light gun which attaches to the joystick port. As many of you may know the game system is a 65XE repackaged as a game console and remote keyboard. This means that the new software, special 256K cartridges and perifials will all run on the 800 series computers. A cute marketing move on Atari's part, sell the consumer a computer disguised as a video game machine.

Three games will be bundled with XE video game system. Flight Simulator II, Missile Command and Blast 'Em will be included in the sale price of the System. "The XE is the ultimate game system for the serious game player," said Michael Katz, Executive Vice-President for Marketing and Entertainment Electronics. "It has more features and power than any other game system, and we're including \$80 worth of free games with every system. No other game maker is offering anything close to it."

For the XE game system, Atari also announced 14 game cartridges, names like Fight Night, Hardball, Touchdown Football, One on One, Archon, Ballblazer, Rescue on Fractulas, Load Runner, Midnight Magic, Food Fight, Battle Zone and Crossbow. Many more are promised in cartrige form. These will all be available from Atari, and hopefully, in the cartridge form, we'll begin to see more new XE software. There are also new titles for the 7800, 10 including Choplifter, Sky Fox and Impossible Mission. Among the 16 new games for 2600 are; Kung Fu Master, Summer Games and Commando.

The ST developers present were: Mindscape, Electronic Arts, Michtron, Timeworks, Epyx in one section; while FTL, Springboard and XANTH F/X (Killing Happy Faces) were in the other section of the booth. Hybrid Arts had a Midi Stage demonstrating their new ADAP sound processer with the help of

a 6 foot shaggy robot that played MIDI keyboards.

All in all it was a good show. Atari, as usual, was a bit busier than most booths; but for new products, it was a little light. The next stop for the Atari road show is the WORLD OF ATARI show in San Jose, maybe we'll see some new things there.

TOYS R US and ATARI By Kit Carson and Nick Berry, S*P*A*C'E

The world's largest toy dealer is (still) trying to get rid of their 8-bit software and hardware. In addition, TOYS R US has discontinued carrying the 520ST (although the ST printer is, strangely, still on their stock lists).

In a recent visit to the Tacoma store there were no 130XEs in sight, nor even any 1050 drives. It looks as though they may be preparing to receive the new XE game (computer) system. This is reinforced by the fact that TOYS R US had almost no computer software and only some game machine cartridges. There are some interesting items available, however.....

If you know of anyone who wants a numeric keypad, they can use the Kid's Controller (price \$8) as a substitute. Or, they can get a keypad when they purchase the 2600 version of Star Raiders for \$5 (a free comic book is also included with this playable game!).

800XL's for only \$69.95. This is a typical mail order price for those outfits which still have them available, but this is a local price! The Tacoma TOYS R US has about a dozen 800XL computers in stock at this deal of a price (Ed., Other TOYS R US stores should offer the same deal, too.). So pick one up now and bump it up to 512K with the Tom Lawless upgrade for a real "Power Machine"!

The Atari 65XE (at \$99.95) computer, 7800 and updated 2600 game machines remain in stock. And, of course, whatever games you can find. Good hunting....

ATARI SOFTWARE COMES TO BREMERTON!

A new software store opened in Bremerton last month. SOFTWARE UNLIMITED (SU) is located next to Zorro's Restaurant on Wheaton Way. SU supports all major computers and carries a fairly extensive stock of Atari software. SU carries over 40 ST titles and twice that many for the eight-bit.

SU sells its software for 20% off suggested retail, and 10% off for special orders. But best of all, SU allows you to preview any item in stock for three days (day of receipt and day of return plus one day); and preview prices can be applied towards final purchase price! Preview prices are:

\$2.50 for software in the range of \$00.00 to \$19.99
\$4.00 for software in the range of \$20.00 to \$40.00
10% of cost for software over \$40.00

It's refreshing to finally have a store supporting the Atari product here in Bremerton.

John Fernandes, KC-ACEs

Product Review - ST

ROADWAR 2000 **21st Century Strategy Gaming!** For all ST Computerists

REVIEW #1

A TEAM XANTH Review by James D. Yee, BRACE and STDIO

Mad Max and Car Wars fans take note, this one's for you. Roadwar 2000 is the 21 century's answer to freeway congestion! Welcome to the SSI school for Offensive Driving.

As with most SSI games the emphasis of RW2000 is not designed as a arcade styled shoot-em up, but a more thoughtful and strategy oriented game. Atari fans may not be familiar with their products, but SSI has been a strong supporter of the Atari computer for many years, with 34 titles on the 8-bit and 7 on the ST in the latest catalog. Strategic Simulations games are just that, typically, simulations of battles past and present. The average buyer of SSI games is the "war gamer", a graduate of the old fashioned military board games played on hexagonal ruled maps.

The setting for this rather bleak futuristic scenario is 1999, nuclear weapons have devastated many sections of the US, mutants and invaders control many parts of the country. This game is a combination of many movies and science fiction novels, like "Omega Man", "Red Dawn" and "Dawn of the Dead" all rolled into one.

You start off as the leader of a small band of survivors and your main concern is keeping your followers fed and healthy. This is accomplished by foraging and "acquiring" equipment or vehicles. After meeting your basic needs, you travel from city to city enlarging your group and supplies. But, very few cities are willing to help. Most city residents are of the unfriendly sort, from plague carrying mutants, gangsters to offbeat religious groups. Your path is not an easy one. Aside from the many different encounters in cities the freeways are no picnic either, road gangs a-la "Road Warrior" or "Death Race 2000", are more than happy to relieve the monotony of cross country driving. Once you make a name for yourself, you'll be recruited to join the GUB a top secret organization that is trying to gather scientists to cure the mutation causing plague.

Graphics are good, but unfortunately not specifically designed for the ST and are of the redefined character type. Most of your movement is directed by either mouse or arrow keys and your decisions are made via gem windows so the game is easy to control. The game is quite well done. Your travels throughout the US cities are amusing and educational since almost all the major cities are used and some are especially useful based on what they are known for today.

Like "Phantasie II" and sequel "Phantasie III", Roadwar 2000 is a fast paced and a broad appeal game that non war-gamers will enjoy. In fact, the actual play of Roadwar is very similar to "Rogue" a strong seller by EPYX. So if you been stuck on the floating bridge or the S-curves at rush hour and "feel the need... for speed" and a maybe little autocide, relax and test drive Roadwar 2000 at a dealer near you!

REVIEW #2

By John Fernandes, KC-ACE's

Roadwar 2000, a recent release from SSI, Strategic Simulations Inc, is an excellent game depicting life in the USA after America's downfall. The story starts out with the successful infiltration of the US by 100 fanatic sect members. The problem is that they've been intentionally infected with a highly contagious disease that results in painful death. The invaders' plans are very successful, with up to 80% of the population being affected. The secret Government Underground Biolab (GUB) frantically searches for a cure. But before they even have a chance to succeed, the Invaders attack with a few nuclear bombs and large numbers of conventional forces. Of course they've been inoculated to the disease.

Here's where you enter, saviour of America. You start out with a car and six stalwart companions. Your job is to restore sanity and order to as much of the US as possible. After you've become sufficiently powerful, GUB will make contact. You're America's only hope. You must reassemble GUB's scattered scientists in the secret lab's headquarters, so a cure for the dreaded disease can be found, America cured, and the Invaders destroyed. All the while you must survive attacks from hostile road gangs, satanists, survivalists, and the Invaders.

So far I've successfully managed to gain control of about half the US and gather together four of the eight scientists. I've thoroughly enjoyed myself so far. I highly recommend this game to anyone interested in graphic adventures.

Play Tips: Get as many large vehicles as you can, build up an adequately supplied gang of several hundred. Fuel, Tires and Gasoline can all be enhanced. A larger gang is less likely to contract the disease from mutants than a smaller gang, due to less time spent in contact during battles. Don't bother with the satanists; I've yet to kill any. Bureaucrats should be left alone; they take too long to engage in battle. The loyal National Guard's on your side. Fix your flats after each battle.

Here's to successful Road Warring!

For information about ROADWAR 2000 contact:

Strategic Simulations, Inc.
1046 N. Rengstorff Ave.
Mountain View, CA 94043-9986

**HELP YOUR CLUB!! WRITE AN ARTICLE
BRING IN A NEW MEMBER!**

Product Reviews - 8-Bit

HAPPY IBM FILE CONVERTER

Reviewed by Tom Neitzel, S*P*A*C*E

HAPPY COMPUTERS, INC.
Morgan Hill, CA

For All 8-Bit Computers with disk drives

I recently purchased a Happy Computers 1050 disk drive enhancement and controller for \$109.90 (the sale price announced in the last PSAN, S*P*A*C*E Treasurer's Report). The price and convenience of fast reading and writing of disk finally swayed me into making the purchase.

Included with the package was Happy's new Version 7.1 Warp Speed Software. The back of the disk included much documentation and an IBM-Atari format file converter. The documentation stated that the software would read and convert files from IBM to Atari format and Atari to IBM format. This utility immediately caught my interest since I have an IBM PC/AT clone at work, but like to use my 8-bit Atari at home to make things like monthly reports and spreadsheets using Visicalc. In the past I have had to upload the files to a mini computer at work, then rush around finding someone that could download the file for me to transfer to my machine for final printing and/or enhancement.

The ability to directly transfer these files really seemed to be of great value to me.

I read the documentation and found that the Happy 1050 cannot format in IBM PC DOS. The disks must be formatted single sided, 9 track on the IBM machine (the resulting byte count is 179712). The PC DOS format command for this is FORMAT A: /1. This is the toughest part of the process.

I then wrote a text file and a DIF format Lotus file to the disk and brought it home to try out.

I booted the Happy converter program and was greeted by a fairly utilitarian Graphics 0 screen asking how many drives I had, and if more than 1 which was the IBM drive (must be a Happy 1050) and which was the Atari drive. You then are presented a menu which allows display of the IBM or Atari directories, convert files to or from IBM and to or from Atari. There is also a translation toggle. If translation is yes, the line feed, carriage return and end of file markers are translated between the two machines.

I first translated a Visicalc spreadsheet file to the IBM disk. The utility asked the source file name and then the destination file name. After all are verified as correct the program starts running. It is quick!! I verified that my visicalc file was on the IBM disk. I took the disk to work and loaded the file into a Lotus translation program and converted it to a Lotus spreadsheet. It loaded and worked perfectly. I tried the same with loading the DIF file into Lotus and it also worked fine.

I tried converting the DIF file that I had loaded on the IBM disk and the text file to Atari format. Both of these files translated just perfectly.

I can say that I do like this utility. Of course you must have both types of computer to make it of any use to you, but it is sure a simple way to transfer files.

(Continued at bottom of next column)

WHOLE EARTH SOFTWARE CATALOG

2.0 FOR 1986

An 8-Bit Book Review by Kit Carson, S*P*A*C*E

Quantum Press/Doubleday, 1985
Stewart Brand, Editor in Chief

Yes, Version 2.0 is an update of 1.0, but if you haven't read either one, you don't know what you are missing.

In the spirit of his Whole Earth Catalog series, Stewart Brand has assembled a staff to perform the massive task of reviewing old and new software, literature, and hardware. They have managed to present the best findings in an enjoyable fashion.

The book is divided into the usual sections of Playing, Organizing, Accounting, etc. Each section has an editor and several reviewers. The section on Telecommunicating, for example, compares on-line services, modems, as well as terminal programs.

One of the most fascinating parts of the book is reading the sample screens in the margins. Even more enjoyable is the section on graphics with examples in dazzling colors.

Unfortunately due to Atari's self-destructive past, there is little in the way of new software that is available. And as a result the editors recommend the Commodore 64. However, the editors have listed all of the computers that a program will run on, so software for Atari is mentioned. Also they have included an index by categories and there are nearly 60 programs reviewed which have Atari versions.

Perhaps I should explain that when I say Atari, the editors mean the 8-bit computers. In the update section in the rear of the book there is a brief article mentioning the ST and the Amiga moving into the MAC's domain. So perhaps 3.0 edition, (which I haven't seen yet), will start reviewing more ST programs.

If you enjoy the book you can follow the latest changes in the Whole Earth Review which is published every three months.

(Happy IBM File Converter - continued)

p.s. My test also had one more variable in it that people at Happy did not know if the utility could handle. The floppy drives on my AT computer are high density 1.2 megabyte drives. They can read and write the lower density disks (180K for IBM single sided disks) but lower density disks formatted on this drive cannot reliably be read on standard drives. I had absolutely no problem.

Another point of information for the curious is that the IBM disk sector has 512 bytes in it while the Atari sector has 128 (256 for double density)

SUPPORT THE LIBRARY

BUY A DISK!

Product Reviews - ST

GOLDRUNNER

Reviewed by William Estes, STDIO

For all ST Computers

Goldrunner is a shoot-em-up game that is nonstop action and you must constantly watch out for the bad guys. The story line is that Earth is dying and Ships are ready for a mass migration, but....between the old legacy and the new, hope lie--the Ringworlds of Triton. Artificial worlds, of unknown composition and built by an unconceivable technology. The Ringworlds are inhabited by the most hostile race in the universe. They will destroy anything within range of their awesome weapons. Yet their great power may be their weakness. They never considered that small, one-manned fighters--against which only the most rudimentary of defenses, would dare to invade their inviolable space. Only the most skillful and the most daring of space pilots have any chance of success. You are chosen. An ex-space pirate, once the scourge of the authorities, you carry the desperate hopes of a ravaged Earth. You are--the GOLDRUNNER.

Well, that's the scenario as laid out for us from Microdeal, an England based software company that is releasing it's wares through Michtron. While this game is not new in any way the graphics are exceptional and the fighter you are flying handles like a dream. You start out with three lives and must live by the motto "If it moves, blast it. If it doesn't move blast it anyway". The only way to win access to another level is to blast everything on the level and find the gateway to the next inner level where you are rewarded by a bonus round to gain extra points. One of the only things that is a problem is that when you lose a life, you have to start over in that ring by destroying all of the targets and flying defenses again. After all, this is a game, not a life and death situation.

You will be attacked by many types of weapons, mostly of the flying type. These flying defenses won't hurt you, but their smart, disruptor type bombs will weaken your defense screens and after five hits and you lose a life. The other problem you find is that not everything you blast will be destroyed. Watch out for buildings that cast long shadows, because if you hit them with your fighter you will also lose a life. If you like shoot-em-up games, this one should be in your collection. While there is nothing really new to this type of game, it is an outstanding example of what an ST can do when time is taken to use the potential that this machine has. The only thing that I don't like about this game is that it is very heavily copy protected and you can't make a backup copy to protect your original. That is my only complaint about GOLDRUNNER.

You can purchase this great game at several places around the greater Seattle area. XANTH Corporation is now selling all software in their store at 10% off of list prices. Goldrunner is regularly \$39.99, but is selling for \$35.95 in several local stores.

REGENT SPELL

Reviewed by George Terpening, S^PA^CE

For All ST Computers

The club was given a copy of Regent Spell for club use at the recent Atari Trek. Regent Spell by Regent Software of Canoga Park, California, is one of the latest stand alone spell checker. It has a 60,000 word dictionary and is a GEM based program. It also is copy protected, but you can make backup copies for your use using Procopy or some other protected copy program. After opening the program, it asks you to insert your document disk and press Return. If you are like me and work from a hard disk, this is the place to change default directories and select the file you want to check. You can check ASCII files or files from most of the word processors now available on the ST. After the file selection a screen appears. Four lines of text are at the top of the screen with the first misspelled word highlighted. There will be a box on the left side of the screen which contains ten words which are close in spelling to the misspelled word. At the right of the screen are three more boxes. The top box contains the misspelled word. The middle box contains the words "Delete Word", and the bottom box contains the words "Insert Word". If the so-called misspelled word is correct and you do not want to add the word to the dictionary, then either double click on the word or press Return. If you do want to add the word to the dictionary, then double click on the Insert Word box. If you made a mistake by adding the word it can be removed by selecting the word from the ten word list by double clicking on the word and then double clicking on the Delete Word box. To change the misspelled word to one of the words in the list just double click on the word in the list. This will place the word from the list in the misspelled word box. To correct the document just double click on the misspelled word box or press Return. If none of the words in the list seem right, then try deleting some of the letters in the word in the misspelled word box (use the backspace key). This will scroll the ten words. That in a nut shell is basically how the program works. Now for my impression. It works as advertised. It is very easy to use and the only two objections. The first is that the program is copy protected. I would like to install it on my hard drive. Since I have Procopy and can operate from a backup copy, that is only an inconvenient for me. It might not be the same for those who are operating from floppy only. The second is that there is no way to go back to the last word just corrected in case you have made a mistake. The only way is to complete the check and go back to your word processor to make the correction.

Regent Spell is strictly a spell checker with some nice features. It does lack a grammar checker which some of the new word processors on the IBM PC contain. For most of us who struggled through english in school that would be a great help. Since none of the other spell checkers for the ST do this, I can't fault this program for not doing it either. This is a solid program and I can recommend it to those who are looking for a spell checker.



Product Reviews - ST

10th FRAME

A Game Review by William F. Estes, STDIO

For all ST Computers

10th FRAME calls itself a Pro Bowling Simulator. This is very close to the truth. As it is in real life, bowling is a game of fractions of an inch, so is 10th FRAME. Real bowling requires a tremendous amount of concentration, and so does 10th FRAME. There are many sport simulators in the market place today, and while many of them don't live up to the hype that has preceded them, 10th FRAME does. It takes all the concentration that one can muster to roll up a respectable score when you play 10th FRAME in the Pro mode. When you load the game you are greeted by sights and sounds that will remind you of being in a real bowling alley. After the title screen, you are given the choice of either open or league bowling. If you chose league bowling, enter the team name and the number of players (up to 4) on your team, their names and ability level (Kids, Amateur or Pro) and then the number of games (up to 3) that you wish to bowl.

If you chose open bowling, you select the number of players (up to 8), players names and ability levels, and the number of games to play (up to 5). The Kids level is no challenge except for the very youngest of children. The Amateur level is harder in the fact that you have to control the speed of the ball and the amount of hook you put on the ball. The Pro level is the hardest and you not only have to watch the amount of speed and hook you use but you have to aim your roll. This is the level you will want to be on if you enjoy real bowling and take the game at all seriously.

Some of the things that make 10th FRAME so much fun to play are the digitized sound that comes from your speaker when you roll the ball, hit the pins, to the applause that the audience gives you when you convert a spare or make a strike. Your view of what is going on is from the perspective of being behind your bowler and a bit above him. You can place the cursor on either your bowler or the spot that you mark on the alley where you will roll your ball. You use your mouse to control the placement of your aimspot and the bowler, and thus have total control of what you are doing as you bowl. By positioning these two factors along with the speed of the ball and the amount of hook that you place on the ball all add up to one of the most challenging sport simulators that I have had the privilege to play or buy.

10th FRAME is from ACCESS Software Inc. and was written by Roger and Bruce Carver, ST version by Brent Erickson. This is one of Access Software's better efforts. One of my pet peeves is that you cannot backup a piece of software to protect the original copy from accidental damage. Access has again used their key system in which the original disc is not copy protected and you can make as many copies as you want, but you still need the key inserted into port #2 to play the game.

There are many more touches that make this a class game. The sound effects are great, the play is excellent, and my wife likes the way the bowler on the screen kicks his right foot up just like a real bowler when he rolls the ball. The graphics, while not the best that I have ever seen, are very acceptable and don't take anything away from the play of the game. The price is \$39.95 and worth every penny. I heartily recommend this for any person who enjoys either watching bowling or bowling for fun or league play. You will probably enjoy 10th FRAME as much as I do.

EASY DRAW 2.0

THE LATEST CHAPTER

Reviewed by George Terpening, S²P²A²C²E

By Migraph Inc, for All ST Computers

This version of Easy Draw is just like the earlier versions of the program, very easy to use and loaded with new features. This version contains all of the drawing features of the earlier one such as drawing lines, boxes, circles, ellipses, arcs, pie shapes, a polyline, and free hand sketching. The program has two windows that can be opened at a time, and a clip board to allow you to store an object while moving from one part of a drawing or while loading a different drawing to work on. Before you created a group of objects by drawing a rubber band box around the items you wanted to group. Now you can do the same thing or select individual objects by holding down the shift key and clicking on the desired entity. That way you can leave out objects that would be included in the box using the old method. The main new features deal with text. For the first time you can import a standard text file. Once the text file is imported, it can be split into parts. The text style will be that of the current selected mode of Easy Draw. There is no way that I can cover all of the new features of this program in an article for a news letter.

I will try to cover some of the best. Now you can flip, mirror, and rotate objects. No more trying to duplicate an object by hand for a mirror object. There are two more character sizes, a 7 point and 36 point. Finally there are some new line features. There are now four line widths and finally arrow heads on the lines. The arrow head feature also works for arcs and other line forms. This is very handy when making data flow diagrams (the feature that I have been waiting for).

All I can say in addition to the above is that I use it all the time in my function as the SPACE ST Librarian. All of the disk packages are designed using Easy Draw. I use Easy Draw to make all of my data flow diagrams.

For the price it is hard to find a package which can do as much for you as this one. Oh yes, there is one hidden "feature" that is worth mentioning, you can get the pop up menu by pressing the space bar instead of clicking the right mouse button. Yes, that method still works too.

ATARI REPAIR
 **PRECISION
ELECTRONICS**
"Finest in Quality Service"

Computer, Printer, Monitor, and Drive Repairs at reasonable prices. Other brands serviced plus VCR, TV, Video Camera, and Stereos. UPS available now.

Precision Electronics, 7990 Leary Way, Redmond, WA
(206) 885-7637



**14100 NE 20TH BELLEVUE WA 98007
ON COMPUTER ROW**

LARGE SELECTION OF ST SOFTWARE

- **BUSINESS applications**
- **Graphics**
- **Desktop publishing**
- **Midi music**
- **ENTERTAINMENT**

NOW STOCKING 8-BIT SOFTWARE!



Atari's XE video game system

**\$0.00 DOWN FINANCING WITH APPROVED CREDIT
90 DAYS SAME AS CASH**

CALL 643-9697

PSAN Feature Article - ST

CHESS WARS!

Brand vs Brand - ST vs Amiga!

By Dr. Bruce D. Noonan, STARBASE

I had seen it on the Atari 8-bits. It was being played on the Amiga. Finally, after many months of waiting it finally arrived direct from Electronic Arts -- Chessmaster 2000 for the ST.

I couldn't wait to get it home and boot it up. This program has so many features it would take an enormous amount of time to test and evaluate all of them. They all show what a powerful and versatile computer the ST is. But I had plans for more than just playing chess. After all, I am a recreational chess player. Sure, I won some games in college fraternity competition, but what I enjoy most is watching and learning from two expert players. Now I had the chance! I planned to use Psion Chess against Chessmaster on two 1040 STs, then, Chessmaster on the ST against Chessmaster on the Amiga!

I had already tested Szabo's Techmate against Psion, and Psion won. But it wasn't really a fair match, because Techmate doesn't allow the setting of a time limit for moves. At any point you can readjust the clock to allow more thinking time for the program, but if it doesn't finish the game before the clock runs out, Techmate forfeits. At least Techmate doesn't think while you are planning your next move (we poor humans would not stand a chance). So when I set Psion on handicap mode (it won't plan ahead until it is Psion's turn) and six seconds per move, the match seemed fairly even. However, I let Techmate's clock run down too far, and it began to hurry its moves to finish before time ran out. Psion took advantage of this and finished Techmate off.

But Chessmaster has an easy mode comparable to Psion's handicap mode. Also, by coincidence, both can be set for 15 second moves (actually, about 15 seconds -- Chessmaster's setting is for 40 moves in 10 minutes). Chessmaster has a nice digitized voice, but I turned this to silent mode so not to detract from its move analysis time. Also, I turned off the move record and chess clocks on both Psion and Chessmaster. To make it easier to go from one program to the other, Chessmaster allows the setting of piece colors and square colors, and all the settings may be saved to disk. Since I prefer to use the two dimensional board, I colored the squares yellow and gray to match Psion's board. Chessmaster uses low or high resolution, so it has more detail in its pieces, and the board is larger than Psion's. Both games use the mouse. Chessmaster uses a hand-shaped mouse cursor which appears when it is your turn to move. It quite cleverly appears to grasp the piece being moved and then opens up to release the piece. On the other hand, Psion's mouse is the familiar arrow, which is white on white's turn, and black on black's turn.

Both programs allow the board to invert, switching of sides, human versus human, ST versus ST, and, of course human versus ST. I let each program think it was playing a human opponent, and took turns letting Chessmaster and Psion be white. The play was very interesting, and all the games took longer than either program alone takes to wipe me out. I played six games. The play was different on each, even though I set Chessmaster to play the BEST move, rather than allowing more random moves.

Psion won three out of four matches, and stalemated the fourth (when it played black)! The number of moves ranged from 32 to 95, and times used were approximately equal, give

or take a minute. I then decided to try out both games against each other on the SAME MACHINE. I whipped out my copy of Kuma's K-SWITCH and removed the ramdisk. I placed Psion in one half of memory, and Chessmaster in the other (incidentally, as I write this, K-SWITCH is installed with Chessmaster in one half of memory, and ST Writer in the other, so I can pop back and forth to check details!). Psion again won both games. I then wanted to see if it mattered if I let Chessmaster think during Psion's move time. Actually, this only increased its thinking time by a second or so per move before and after I switched to the other half of memory. While on Psion's side, Chessmaster's thinking was frozen. But this small difference finally let Chessmaster beat Psion.

I couldn't wait to see what would happen if Chessmaster on the Amiga played against Chessmaster on the ST. After all, the ST is 8 Mhz, and the Amiga is slightly less fast. I picked 512K machines and played four games. Interestingly, the moves in the first two games (Amiga white the first, ST white the second) were NEARLY IDENTICAL! White won all four games. However, in the first two games I set Chessmaster for the BEST move style, and NORMAL style in the last two games. In games 1 and 2, white won, but the ST won the second game in 7:42 where the Amiga took 10:33 to win the first game. Even though the outcome was one win each, I have to give the victory to the ST as it needed less time to win. When NORMAL style was set (ie., more random moves) totally different games were played, but again, white won both, and there was less than 20 seconds difference in move time used between the machines in each game, but it took the Amiga 14:56 to beat the ST versus 12:54 for the ST to beat the Amiga.

So what does all this prove? I don't think any average player can stand a chance against any of the three chess games unless the computer is somewhat handicapped in move time or in its ability to think while the human player is thinking. I have problems trying to slow down and consider the consequences of each move. The computer moves so fast that I feel guilty if I don't keep up the pace! After all, if I take a long time to plan my move, the computer has that much more time to consider many more different possibilities and strategies. So I always turn off its ability to think while waiting for me to move.

Chessmaster has so many more features than the other programs, it would probably be my first choice. But it also has a number of bugs which, as a programmer myself, annoy me. For example, the screen doesn't update sometimes after a menu drops down, and part of the line doesn't get redrawn between the menu options and the main screen. Also, if you go to the alternate screen which shows the move record and captured pieces, if you click the mouse and return to the playing screen, you can no longer select menu items -- they just won't drop!

On the other hand, Chessmaster has more detail, a bigger playing board, the ability to enter your name, a pleasing voice to talk to you (unlike the mechanical sounding voice in the Amiga version), an alternate screen to flash up "if the boss comes by" which shows a table of "analysis of loan investment". There is advertizing space available in one alert box, and even a public service announcement! But probably the nicest feature is that you can send another \$10

(Continued at bottom of next page - 2nd column)

Product Review - ST

LABELMASTER ELITE IS! Reviewed by Carolyn Caine, S*P*A*C*E

Migrath, INC.
Federal Way, WA 98003

System Requirements: Any ST and a printer

Some months ago, I reviewed a program called LabelMaster. It was a slick, well written program that did a very nice job of printing 1" mailing labels with the name and address and a picture. It had very limited flexibility, and while it did what it did very well, I questioned it being called LabelMaster. Well, those folks at Migrath have gone back to the computer and come up with a new version of the program that not only warrants the name LabelMaster, but I won't quarrel with Elite either. Now you can have mailing labels with whatever you want on them and they can be up to 4x6 if you like. You can, listen to this, print disk labels. These labels even have the name on the edge so you don't have to take them out of the box to see what they are. It prints disk directories. All you do is give it a title and it reads the disk will put up to 57 file names on the label (that is all that fit). You can even put three graphics on one label for special effects.

The printer drivers have been increased. This program will now work with that powerful 24 pin printer someone talked you into. Of course, it works with "most 9-pin printers". You can set your left hand margin so you don't have to jockey the paper around to line it up.

You can save all of your different label formats, now. A handy little feature for those of us who sometimes like fancy stuff and would like to use it more than once. You can merge several small files into one limited only by your computer's memory or your disk's space (I think). A comment line of up

to 48 characters may be stored with each label. You can print it or not. Now this is the program for you newsletter editors and for anyone else who wants to put membership expiration dates on their mailings (or anything else for that matter).

The graphics editing has also been enhanced allowing mirroring and copying, and the drawing of circles and squares. It seems to me that whole program works faster now. I particular noticed this in the graphics editing mode. It works very slick. I did manage to lock the program up once while copying parts of the picture to other parts, but then I had already copied the same parts about 10 times when it happened. Maybe I just overloaded its circuits.

If you liked LabelMaster you will love this program. It has the versatility a program should have if it is called Master anything. It is well written and really doesn't require much more than a glance at the manual to use all of the features. I am impressed with the reworking of this program. I believe it shows that the people at Migrath are dedicated to putting out quality products and giving their users what they ask for. If you use labels for disks or mailing, you won't go wrong with this program.

One problem that still exists as far as I can tell is a the lack of availability of *reasonably* priced pinfeed disk labels. Eight or nine cents apiece is not my idea of reasonable! There is surely a market for this fine program, so I hope somebody is listening.

(Chess Wars - continued)

to EA and they will send you a personalized, unprotected disk which can be copied to a hard disk, or to a double-sided disk to eliminate having to use two single-sided disks. I did both, but another bug necessitates that the double-sided disk be loaded from drive B if you have two floppy drives, as it looks for its opening moves file on drive B. This doesn't happen when loading it from the hard disk, however.

So my first choice is Psion chess. It's programming is top-notch, and I have found no bugs in it whatsoever (so long as you don't try to use it in low resolution -- it makes an attempt to work so long as you only use the 3-D screen, but if you select 2-D it crashes). It works flawlessly in medium or high resolution. Oh, and by the way, it has on-screen help messages and can display text in English, French, German, Italian, Spanish and Swedish! 50 classic master games are stored on disk, and you can entertain yourself for hours watching the masters play. I read that Atari has recently purchased the U.S.A. distribution rights to Psion chess.

I only wish that one or both of the two programs had a feature to allow you to play against another human opponent by modem. Maybe Michtron will add this feature to Szabo's Techmate(?).

My thanks to Mark Samuelson at Family Computer in Lynnwood, WA for providing the computers for the comparisons.



PSAN Feature Articles - ST & 8-Bit

Electronic Arts **SLASHING PRICES TO THE BONE!** By Penny Oraston, R-ATARI CLUB

Has anyone noticed the incredibly low prices on most of the Electronic Arts programs lately? True, piracy has had its toll on the marketplace of late, and Electronic Arts seems very hesitant to bring out any new software. And most pirating seemed to stem from the fact that software seemed over-priced for what you were getting. But now Electronic Arts has lowered prices drastically, many titles now going for \$15 each retail, or even under \$10 through mail order! Some of the very low-priced titles include Archon, Mail Order Monsters, Music Construction Set, Pinball Construction Set, M.U.L.E., Seven Cities of Gold.....the list goes on and on.

Among my favorites in the above mentioned games are M.U.L.E. and Seven Cities of Gold. M.U.L.E. in particular, is a very addicting game that the whole family can play. We play it almost every day, and I don't even mind losing--and coming from me, that says a lot! In this game up to four can play, and the computer takes over any other players that are not in use. This means that if you play by yourself, you end up with three computer opponents. And in the hardest level, the computer guys get more cash! If you play as a humanoid, you only have half the cash at the beginning of the game as the computer players. This can be an advantage at the beginning of the game, as the last place player tends to have good luck, and can usually get the plots of land that he/she wants. Of course, having little cash also means that you won't be able to buy any extra land in those crucial first rounds, so it goes both ways. The purpose of the game is to develop your land, making food, energy, smithore, and smithite. There are times when stragety will win out--where the food and energy are going for incredibly high prices, and the smithore and smithite are rock-bottom. But if too much of anything is available, then the prices soon go crashing down. There are also some things that you can not plan on though, such as planetquakes and pirates. Never count your money until your goods have been sold! If the computer is handling more than one player in the game it seems to focus on just one of them, i.e., one of the computer players will do extremely well and the other(s) won't do well at all. And it is usually pretty predictable as to which color computer player will be the formidable one, so pay close attention! I particularly enjoy playing as a humanoid and still managing to whomp those computer players a good one. I don't always manage it, but it is sure fun trying!

Seven Cities of Gold in an unusual sort of graphic adventure game, and it can be very educational as well. In it you are the captain of a fleet of ships, set upon discovering tribes and riches in the new world. A built-in map maker can create a new world for you every time you play, although a single game can last a week or more depending on your diligence, (and luck in the harder levels). A tip--the documentation says that you can play two ways, either by being friendly to the natives, or by conquering them. Well, the documentation is giving you a wrong steer here! If you fight the natives too much (and believe me, it doesn't take too much to be too much) then you will never win favor with your King. And as he is the one who raises your rank, it is best to stay in his good favor! If you go into a village, etc. and the natives are restless, try moving at a 'cautious' pace. If it is a newly discovered tribe, then 'amaze natives' should do the trick, assuming of course that you don't bump into the natives.

(Continued at bottom of next column)

Dear Chip **The "New Age" Advisor**

Dear Chip,

I hear you are having a mod clinic. Let me tell you about the one I just did on my 800. I tore apart my old TI-99A and took all the memory chips out of it and put them in my 800. This increased my memory to 96K. It only cost me \$75.00 and this included the cost of the computer. Time wise, it only took me one weekend. My question to you is, do think any of your members would like the schematics? When you see what 96K can do, you too, will be impressed!

Billy Bob from Waco

Dear Billy,

Why didn't you take one of your 12 pencils out of your shirt pocket, or use your wrist watch calculator and figure out that it would of been easier to attend an upcoming Starbase/Precision Electronics mod clinic? In about four hours time, we can give you 256K and complete compatibility with "all" your Atari software! All you've managed to do, is to make a TI an honest computer and to louse up a whole weekend! From now on, read your PSAN more closely. Let us help you make your computer, a better machine!

Keep On Trucking,
Chip

(EA - Slashing Prices to the Bone! - continued)

But you can only amaze each tribe once, so it is pointless to try it again if they are still restless. Often, offering many gifts will win out. Be sure to wait until someone picks up your gift (it will disappear) before dropping another one, or else it will be wasted. Eventually, if your troops have not deserted you, the natives will calm down and you can trade with them. If you should kill the chief, though, then there is nothing you can do but fight or run for your lives!

Music Construction Set is good for budding Mozart's, especially if they don't have space for a piano! It can give you printouts of your musical score, something not all music programs do. It has a drawback in that it can only do 4 instruments, but unless you really are a budding Mozart, that shouldn't be much of a hinderence. There is a simple tutorial provided to help you get started.

Archon and Archon II, Adept are both excellent skill/stragety games. Even Movie Maker, that difficult to comprehend, but oh so fun to try program is now on the list of low priced software.

So what is everyone waiting for? If you have ever tried any of these programs and enjoyed them, but never got around to buying them because software prices were too high, now is the time to put your money where your mouth is! Let's show these people that there are still buying dollars out there for Atari, and maybe, just maybe, there'll be some exciting NEW titles out there for us by Christmas!

SUPPORT YOUR CLUB
GIVE A LITTLE!

PSAN Feature Articles - ST & 8-Bit

THE DRAGON'S T.A.I.L.

Reviewed by Penny Ormston, R-ATARI CLUB

Distributed via the ANTIC Catalog
Programs by Ed Churnside
\$24.95

For Disk based 8-Bit Atari Computers

The Dragon's T.A.I.L. (Toolkit And Integrated Library) is mainly a programmers treasure trove of machine language routines to do everything from advanced text manipulation to Movie-maker like animations.

First of all I have one main gripe and it isn't really in reference to this particular program, but to ANTIC programs in general. For one thing, all documentation for Antic programs is right on the disks. This in itself isn't too big a deal, but I just wish that someone there had had the brains to put in a page numbering system into the auto-printing program! The documentation for this particular program covers approximately 3.5 disk sides. And you can just imagine how thrilled I was when I just finished seperating the last of the pages, put them all in a neat pile, and then managed to dump them all over the floor! It took me forever to get the pages back in order (or are they?). Even without dropping the pages, this sort of programming tool is so complex that it would have been wonderful, and far less time consuming to use, if there had been some sort of index--but of course then you would have to have page numbers to give reference to.....

And I can only imagine the frustration for a person buying from the CATALOG if they don't have a printer? Antic does offer to send a copy of the printed documentation, but you have to pay for it, and wait around another six weeks before you would receive the docs and get to use the program.

The Library itself occupies only a small portion of the six disk sides. There are some powerful utilities, such as the Builder program that can insert the calls for the specific machine language routines you plan to use from the library. There are also many short, sample programs to give examples of how to use the routines.

Among the most powerful of the features that the Dragon's T.A.I.L. has is its incredible graphics capabilities. The program itself does not draw for you. However, it supports Rambrant, Drawit, Micropainter, Micro Illustrator, Paint, and Movie Maker(background). Any of these programs may be used for the actual screen composition, and can then be compressed with the included Convert utility. Once the pictures have been converted, you are free to enter the world of the Dragon's T.A.I.L. EDITOR program.

The EDITOR is a unique, and powerful program. You can do almost anything with it, as long as you stay within the confines of graphics modes 1-7. This program is very complicated. Although the basic commands are rather simple, usually requiring only a keystroke or two per command, getting the complexities of graphic movement and sound in sync is not an easy task! Timing also, is a crucial matter and must be taken into account. Not to worry too much, though. The program includes a short tutorial on the use of the Editor and all of its major functions. In my case, the tutorial wasn't quite long enough, so I had to do quite a bit of trial and error with some satisfying results. It was at this point that an index would have been most appreciated.

(Continued at bottom of next page - 2nd column)

LATERAL THINKING

by Earl Nightingale

(Reprinted from the N.A.C.E.C., South Africa newsletter, Jan-Feb, 1987)

Here's a little story to test how good a thinker you are: Many years ago when a person who owed money could be thrown in jail, a merchant in London had the misfortune to owe a huge sum to a money-lender. The money-lender, who was old and ugly, fancied the merchant's beautiful young daughter. He proposed a bargain. He said he would cancel the merchants debt if he could have the girl instead. Both the merchant and his daughter were horrified at the proposal. So the cunning money-lender proposed that they let Providence decide the matter. He told them that he would put a black pebble and a white pebble into an empty money-bag and then the girl would pick out one of the pebbles. If she chose the black pebble she would become his wife and her father's debt would be cancelled. If she chose the white pebble she would stay with her father and the debt would still be cancelled, but if she refused to pick out a pebble her father would be thrown into jail and she would starve.

Reluctantly the merchant agreed. They were standing on a pebble-strewn path in the merchants garden as they talked and the money-lender stooped down to pick up the two pebbles. As he did, the girl, sharp-eyed with fright, noticed that he picked up two black pebbles and put them into the money-bag. He then asked the girl to pick out the pebble that was to decide her fate and the fate of her father. Imagine that you are standing on that path in the merchant's garden. What would you have done if you had been the girl? If you had to advise her what would you have advised her to do?

What type of thinking would you use to solve the problem? You may think that careful logical analysis must solve the problem if there is a solution. This type of thinking is straightforward vertical thinking. The other type of thinking is lateral thinking. Vertical thinkers are usually not much help to a girl in this situation. The way they analyze it, there are three possibilities:

- 1) The girl should refuse to take a pebble,
- 2) The girl should show that there are two black pebbles in the bag and expose the money-lender as a cheat,
- 3) The girl should take a black pebble and sacrifice herself in order to save her father from prison.

None of these suggestions is very helpful, for if the girl does take a pebble then she has to marry the money-lender. If not, her father goes to prison. The girl in the story put her hand into the money-bag and drew out a pebble. Without looking at it she fumbled and let it fall to the path where it was immediately lost among all the others.

"Oh, how clumsy of me", she said, "But never mind--if you look into the bag you will be able to tell which pebble I took by the color of the one that is left". Since the remaining pebble is, of course, black, it must be assumed that she has taken the white pebble, since the money-lender dare not admit his dishonesty. That's lateral thinking...it not only solves problems, it improves on the situation. And if you want to know more about lateral thinking, get Edward de Bono's excellent book, 'New Think'.

SEE YOU AT THE MEETINGS!

PSAN Feature Article - 8-Bit

THE CHALLENGER 1200 MODEM

(And Other Tele-Communications Stuff!)

An 8-Bit Perspective by Nick Berry, \$*P*A*C*E

What do I know about modems? Basically, SQUAT! The wonderful thing about the way our computer systems have evolved is that many areas have become so user-friendly that we don't need to know much. Admittedly this is not true for every aspect, but I have been more than pleased with the most recent addition to my system.

Actually, this review concerns more than just the modem, it involves everything necessary to make it all work. Since I have an 800XL then I also purchased a P:R: Connection interface from ICD, and a terminal program, namely 850 EXPRESS!, to tie it all together. I purchased everything at ATARI TREK '87. The CHALLENGER 1200 modem from Butler's booth and the P:R: Connection at the ICD booth.

Lets look at the modem first. Its manufactured by Datatronics Technology in wonderful downtown Taiwan. It has a sharp looking extruded aluminum case, a row of 8 LED's on the front panel, and a monitor speaker on the base. The rear panel contains the phone jack, the RS232 jack, the on/off switch and the volume control. Pop off the front panel and you have access to a row of DIP switches to configure modem functions. The CHALLENGER 1200 is Bell 103 and 212A compatible and will auto-dial and auto-answer. However, there is no mention of "Hayes compatible" so apparently there is something lacking. It also uses the AT command set, apparently for those people who wish to tough-it out by not using a terminal program. It comes with a nice spiral bound manual which gives a substantial amount of information on using the modem. This is all fine and dandy but the only thing that is important to me is the on/off switch. I have found absolutely no use for the manual or the row of configuration switches or even the lack of "Hayes compatibility". The reason for this follows.

850 EXPRESS! is my main terminal program. It is absolutely beautiful. With it, I haven't had to touch anything on the modem. In fact I haven't even had to read any documentation for the program. It is so simple and obvious in operation yet is powerful enough to do most everything you need. I wish that more programs were so natural to work with, so that you can simply load it and go instead of spending hours reading the manual and playing with the program, trying to get it to do what you want, and cursing the clown who programmed it. There are some who like AMODEM and it looks to be a fairly powerful program, and version 7.4 supports YMODEM protocol for file transfers (this transfers larger blocks of the file). But, at least for myself, its not as easy to use and not as fast. I suppose if I spent more time with it I might prefer it, but since EXPRESS! does what I want, and is so easy, I think I'll stick with it for now. And the best part about it is that it came with the P:R: Connection I bought.

Now for the interface needed to hook the modem to my 8-bit. The ICD P:R: Connection. A mystical box which provides both a parallel port and an RS-232 port. Since I already have a XETEC Graphix AT printer interface which lets me print those wonderful little ATARI inverse characters at the flip of a switch, I didn't really need the parallel port, but I got it and paid for it anyway. The P:R: does what its supposed to do and sits hidden behind my monitor. Nuff said, except for the problems it has with some terminal programs, namely 850 EXPRESS! Aha! But there is provided a solution which I have already mentioned. ICD includes EXPRESS (and AMODEM as well) on a disk with the P:R:, and it is Rev. 3

which has been updated to work properly with it. Thank you ICD.

Well, there you have it. After an afternoon at ATARI TREK and the spending of \$225 total, I have become a telecommunicating ATARIAN. Lets look at the price breakdowns. One CHALLENGER 1200 modem - \$130. One ICD P:R: Connection - \$80. Oh, and I forgot to mention before about the cable needed to connect the modem to the interface. One ICD modem cable - \$15. All in all a sizeable amount for a computer I originally paid \$80 for. In fact this purchase has shot me well past the \$1000 mark for the system in hardware alone. Yes, I hear you "old timers" both laughing and crying at the same time because your old 800 and 810 together cost you over \$1000. Still neither of us regrets what we've got and I'm simply enjoying this new twist I've got for my "hobby".

XM301 MODEM WARNING

An Electronic Time Bomb?

[Reprinted from the newsletter of the Atari Federation.]

If you own an Atari XM301 modem, you may own an electronic "time bomb." After a rash of hardware failures last month, which included smoking a disk drive and two printer interfaces, I found the cause of my problem to be my XM301. The modem worked fine, but was killing off my system piece by piece.

The reason has to do with the 13 wires coming from the serial I/O plug, although only nine wires are actually used by the modem. The other four wires have about 1/8 inch of bare wire showing, and are just hanging around, unterminated, waiting to touch something they shouldn't. I have checked other XM301 modems and this condition existed in them, too.

Here is what to do IMMEDIATELY!

With the power OFF, remove the two screws from the back of the modem and lift off the plastic case. Inspect the wires where they enter the case. You will find four of the wires are not connected to anything. They will be cut off close to the outer sheathing of the cable. If these four wires show any bare metal, cut it off. Be careful not to let the cut off pieces fall into the modem board.

Next, tape each wire individually, so that it cannot possibly touch any other wires or part of the modem. Put the modem back in its case, replace the screws and you're done.

I've written to Atari regarding this problem, but haven't received a reply as yet.

(Dragon's T.A.I.L. - continued)

The editor program can allow full screen animation, and in my opinion is more rewarding, i.e. better results than with Movie Maker. Combined with the text-manipulating routines, this could make some excellent graphic adventure games!

Studio BBS 206-822-4085

PSAN Feature Article - 8-Bit

Video 80 Software 80 Column EMULATOR FIX FOR THE 800XL

By Michael D. Bjorkman, S*P*A*C*E

One of the things I miss most in my 8-bit Atari is an 80 column character display. Initially, buying a computer that hooked up to a TV set was attractive, but now the attendant limitation of a 40 column display is confining.

There are two ways of obtaining those longed for 80 columns: either through hardware or software. Hardware 80 columns has been promised "real soon now" by both Atari and IDC. However, emulation of 80 columns in software is available now, through CDY's Omniview replacement OS chip, and COMPUTE!'s Video 80.

Video 80 is a type-in software 80 column screen handler for the Atari 800 8-bit computer written by Charles Brannon and first published in the April 1983 issue of COMPUTE!. The 80 columns are displayed using a GRAPHICS 8 screen with characters 8 pixels high by 4 pixels wide. Video 80 occupies 1579 bytes of memory starting at \$1F00, hence you may want to use MEM.SAV.

Once the Video 80 handler is installed, it is opened from BASIC using OPEN #1,12,0,"V:", after which output can be directed to the 80 column screen through the opened channel (in the above example, the channel number is 1). For example, PRINT #1;"Hello world" would write to the screen in 80 column format.

A short machine language program is included in the article which allows the user to list and edit BASIC programs in 80 columns, when used in conjunction with Video 80. However, Video 80 doesn't allow screen editing, so BASIC programs can only be edited in 80 columns by retyping the line when an error occurs. (You've really got to like typing to try this.) Any use of cursor control keys with Video 80 results in the printed versions of the control characters being written to the screen.

If you're interested in trying Video 80, then you'll want to go to your local library and check out the April 1983 issue of COMPUTE! (The Burien library didn't have it, so I had to put in a request to get it sent from another branch of the King County Library System.)

There is one more "got ya", though. Video 80 requires the translator disk to run on the XL machines. However, Video 80 is easily patched so that it runs on the XL machines. Disassembly of Video 80 shows it doesn't run on the XL's because of three instructions that address OS routines which were moved when the XL OS was written. All that is needed to change the addresses from the old locations to the new locations is to change lines 230, 240, 9112, 9244, and 9430 of the BASIC Video 80 creator program to:

```
230 DATA 4556,4216,7888,4777,7684,8789,6732,3655,3808,  
      3587,6205,6086,5406,5712,6731,7528,7758,7120,6184,  
      5636,6210
```

```
240 DATA 6450,5602,7418,7382,7271,1354
```

```
9112 DATA 32,142,239,162,0,142
```

```
9244 DATA 34,32,2,243,192,127
```

```
9430 DATA 29,73,251,96,169,0
```

Be sure to start with a version of the BASIC creator program which will write the 800 version of the handler to disk. If it won't, then some of the data statements are entered incorrectly and the above changes aren't going to fix that. Follow the on-screen instructions to find the lines with the mistyping. Once a good version of the BASIC creator program is entered, save it to disk and alter the lines 4 lines as shown above. Save the modified creator program under a new name. (It always pays to be cautious!) RUN the modified version of the creator program, and follow the on screen instructions.

Those of you who have tried the PD VT100 terminal emulator by Alex Stevens and David Walton will recognize the 80 column screen display. Video 80 is the core of the 80 column handler used by them. (Some two thirds of the Video 80 coding is in their handler.) The VT100 terminal emulator can be gotten from several sources, the ANTIC catalog being one of them. A few changes to Video 80 were made by Stevens and Walton to get it to work with their terminal emulator. They had to move the 80 column handler up to location \$2C00 to make room for the modem handler, and they also added some coding to give partial use of the cursor control keys. (If you would like a few more details on the VT100 terminal emulator then read the review in the BRACE section of the September 1986 issue of PSAN.)

Needless to say, the VT100 terminal emulator also needs the translator disk to run on the XL machines. Only two addresses in the VT100 emulator code need to be changed, however, instead of the three required for Video 80, because of the changes made by Stevens and Walton. You need to change a \$F3F6 to \$EF8E and a \$FEF6 to \$FB49. (These are the addresses, not how they would appear in memory in low byte/high byte order.) I used my Omnimon to load the program into memory, search memory for the two strings of bytes making up the addresses, alter the four bytes in memory to the new values, and write the program back out to disk.

Has this fiddling with software 80 column emulators satisfied my itch for an 80 column display? No, it hasn't, but it has provided a few evenings of entertainment. An 80 column screen editor is really needed to make Video 80 have a significant effect on the way I use my computer.

```
=====
=                                     =
= "Most people in artificial in-    =
= telligence who have had a glass  =
= of wine will tell you that they  =
= do not actually understand it    =
= much either."                     =
=                                     =
= Apple Technology Guru Alan Kay,   =
= in THE NEW YORK TIMES             =
=                                     =
=====
```



PSAN Feature Article - 8-Bit

LIGHT PEN ANYONE?

A Build It Yourself Light Pen
By Thomas Lawless, R-ATARI CLUB

For the 8-Bit Atari Hardware Enthusiast!

DISCLAIMER

The device described herein operates well if constructed as directed. Since I cannot control your abilities' or materials' selection process I assume no liability for the information contained in this article. Nonetheless, it works...

INTRODUCTION

Have you ever wanted a light pen, or were maybe just a little curious as to how one worked? Well, read on, as we cover some of the mysteries of this device and explore a few ways to use it.

The first element we will discuss is the light detecting device. Normally a 'photo transistor' is used. Light turns them on, just like a switch. In this case, it's actually the electron beam that 'writes' the picture to the screen (of the monitor/TV) that turns on our photo transistor. A 74LS132 integrated circuit (I.C.) is used for buffering the output so that we get 'clean' triggers (switching).

Next, how do we know where the electron beam is? Well Atari had some foresight (did I say that?) in this department. They tied the trigger input to the GTIA and it stores the approximate location of the electron beam on the screen when the trigger input was activated. Ah! you say, that's all well and good, but how do I use this information? That's where it gets a little tricky. (You knew there had to be catch didn't you!)

Fortunately it's not really that hard for the basic 'stuff'. However, when you get up to writing pull down menu's, with icons ect., it could become a little difficult. You just 'PEEK' at locations 564 and 565. These are, respectively, the Light Pen Horizontal, and Light Pen Vertical, Shadow Registers. The 'real' registers are located at 54284 (\$D40C) and 54285 (\$D40D). Both sets of addresses contain the same values. However, I recommend using the lower RAM based values in your programs; no telling when Atari may change the others. These locations are updated 60 times per second. So they are pretty accurate.

Next we use good 'ole Joystick Port One to tell the computer to do something when we press our 'key'. We're going to use the 'forward' line to signal the computer and STICK0 location 632 (\$278). You, of course, can use what you please in your own applications.

These light pen position memory locations do not hold actual screen positions. The values have to be interpreted to get the correct screen coordinates. For Horizontal, the left edge is 67. This value increases in increments of one, (one per color clock), until it reaches 227, then resets to zero, and again increments by one until you reach the right edge; which should be 7. For the Vertical, the upper edge is 16, it increments by one, (one per two scan lines), for a maximum of 111 at the bottom.

Well that covers the software part and a little theory. Now to build one of these jewels.

CONSTRUCTION

First look over the parts list. Most everything is available at Radio Shack, or really most any hobby electronics shop, except the large marker pen body. That you'll have to scrounge up somewhere or destroy a good marker to get one.

Next is the cable for the light pen. I used a very flexible intercom cable that had 4 wires in it, and a 'D' type female 9 pin connector. I bent the side tabs back to make it fit into my 1200XL joystick port (Ed., This shouldn't be necessary on other computer models). Then I just soldered the four wires in place as shown in the schematic.

I placed my 'key' switch (S1) about a foot from the joystick port, you can put your's where you want it. You could even put it inside the marker body if you can find one small enough and that you can press 'on' comfortably.

I cut the cable at the 12 inch mark and found the Ground and Forward line wires (#8 and #1 respectively). I soldered in switch S1, and reconnected all wires except the one for the Forward (it's done it's job).

Now we're up at the end of our rope, oops, I meant wire. Cut the following leads on the I.C. (just where the 'fat' part of the lead starts): 4, 5, 6, 8, 9, 10, 11, 12, and 13.

Cut a hole in the end cap of the marker tube, just big enough to fit through the cable you are using. Put the cable through the end cap.

Next we start soldering to the I.C.. Solder the +5vdc wire to pin 14. Solder the Trigger wire to pin 3. Solder a small jumper, (the 1 inch piece of wire), to pins 1 and 2.

Solder one end of the 2000 (2K) ohm resistor to pin 7 along with the Ground wire. Now connect the other end of the resistor to pin 1 or 2.

Here is where those two 6 inch pieces of #30 wire come in (i.e., 30 guage, wirewrap wire). Connect a wire from pin 1 or 2 of I.C. to the photo transistor, lead 1. Connect a wire from pin 14 of the I.C. to pin 3 of photo transistor. (I would put shrink tubing over these connections to prevent them from shorting). Cut lead 2 off of the photo transistor, if it has one (they vary from company to company).

Well that's all the tough stuff. Now you put the photo transistor into the marker tube, use a dull pencil and push it all the way down the tube until it comes up flush on the narrow end of the tube.

Next insert the I.C. into the tube. Tie a knot in the cable or a plastic 'tie-tie' on the 'inside' end of the cap - this is to relieve cable stress.

Go ahead and put the cover on and you're done!

TESTING and FINIS

The BASIC program listing, below, just checks to see if everything works okay. It is well commented. There are at least a few hundred applications you could write yourself. I may write one in the future myself and send it in to PSAN. Well, that's it for me, enjoy yourselves!!!

PSAN Feature Article - 8-Bit

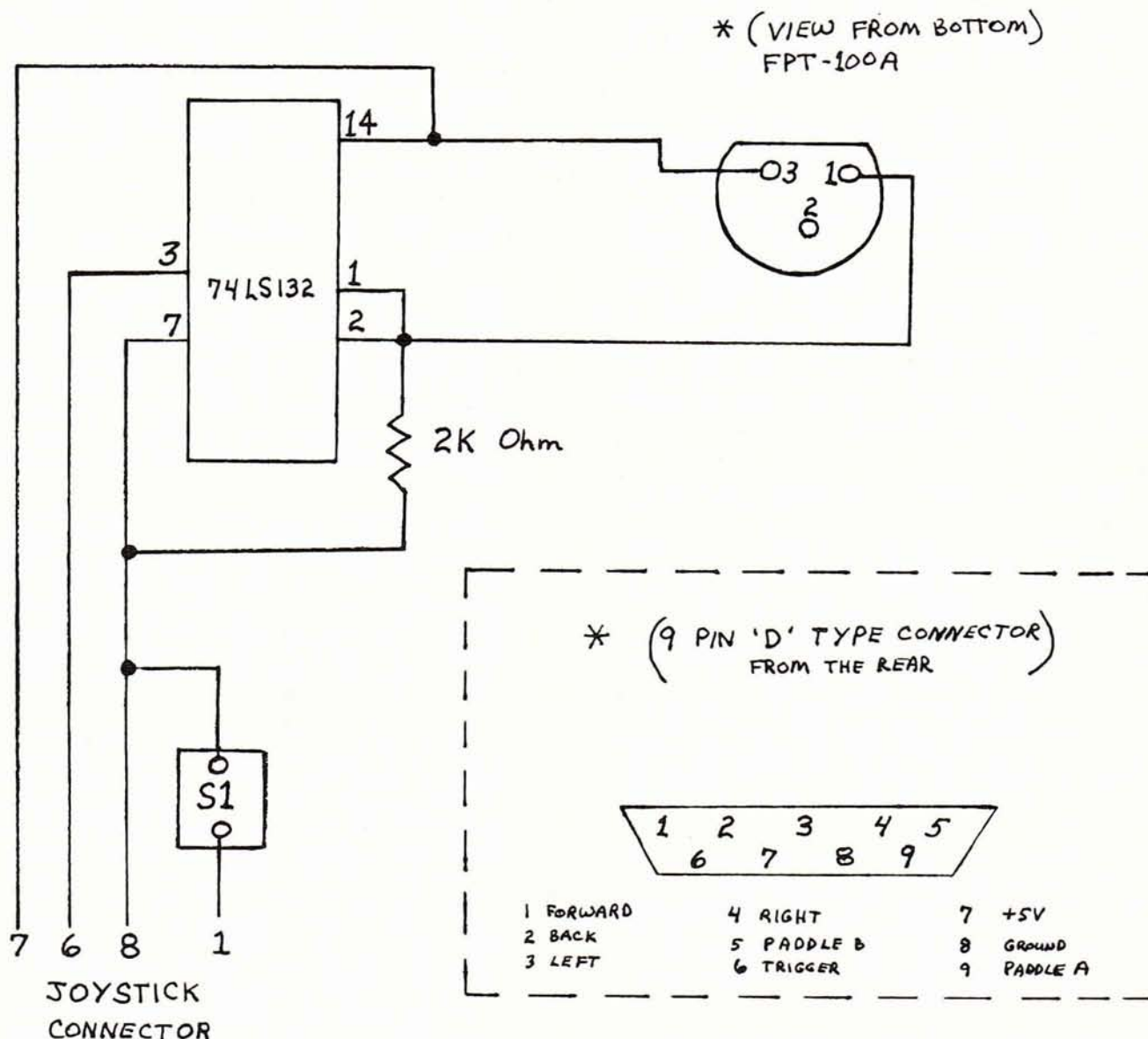
```

0 REM LIGHT PEN TEST PROGRAM
5 REM By Thom Lawless, 'R' Atari Club
10 REM 100; GRAPHICS WITH A TEXT WINDOW
20 REM 110 LPEN VERTICAL POSITION
30 REM 120 LPEN HORIZONTAL
40 REM 130 ADJUSTED VERTICAL POS.
50 REM 140 - 160 ADJUST HORIZONTAL
60 REM 170 CHECK FOR 'KEY' ON
70 REM IF 'KEY ON THEN PRINT SCREEN
80 REM AND PEEK VALUES TO SCREEN
90 REM 180 START IT OVER AGAIN
100 GRAPHICS 7:SETCOLOR 4,8,8
110 Y=PEEK(565)
120 X=PEEK(564)
130 Y1=Y:Y1=Y1-16:IF Y1<0 THEN Y1=0
140 X1=X:IF X1<33 THEN X1=X1+227
150 X1=X1-67:IF X1<0 THEN X1=0
160 IF X1>159 THEN X1=159
170 IF PEEK(632)=14 THEN ? X,X1,Y,Y1
180 GOTO 110
    
```

PARTS LIST

(1 ea.) Photo transistor FPT100A
 (1 ea.) 2K ohm, 1/8 or 1/4 watt resistor *
 (1 ea.) 74LS132 integrated circuit
 (1 ea.) Single Pole, Single Throw, (SPST), pushbutton switch
 (1 ea.) 9 pin 'D' type, female connector
 (4 ft. or more) of 4 conductor wire flexible cable.
 (13 inches) of #30 wire. (30 gauge, wirewrap wire). Cut into
 3 pieces: two of 6 inches and one of 1 inch lengths.
 (1 ea.) Large Marker Body. Approximate dimensions (length X
 diameter): 6 X 1/2 inch. *** Make sure it has a removable end
 cap! ***
 (4 inches) of 'Shrink' tubing (optional).

* NOTE you might have to change the value of the 2K ohm to suit your monitor; it should however, never be less than 1K ohm.



WHAT HATH DESKTOP PUBLISHING WROUGHT? THE LASER PRINTER DILEMMA !

By Wm. Price

CURRENT NOTES JUNE 1987

Before the advent of SoftLogik's *Publishing Partner* and David Small's *Magic Sac*, making possible operation of *Ready, Set, Go!* (RSG) and *PageMaker* on the ST, life was relatively simple. For most of us, output was directed to an Epson compatible dot matrix printer. And there are a number of these available at competitive prices to produce near letter quality (NLQ) products. With graphic (bit mapped) type faces, attractive but "not near typeset quality" (NNTQ) is available from D.E.G.A.S., XLent's *Typesetter Elite*, NEOchrome, *Font Writer*, and a few of the ST word processing systems like *Word Writer*. Better quality is available from *Publishing Partner*, RSG, *Easy Draw*, and *Graphic Artist*, but their dot matrix output is slow and the quality does not approach that available from laser printers.

With new publishing software capabilities now available for the ST, many of us are on the horns of the laser printer dilemma. Some may think that the cost is a major consideration, but more important are the typesetting features available. A low cost laser printer that can only produce typewritten quality output is a fast but expensive daisy wheel printer. In essence you get daisy wheel, letter quality (LQ) print at or under \$2000. And this is the kind of option that is readily available from a wide range of laser printers. The limited flexibility and capabilities from this kind of choice will prove to be unsatisfactory for most of us that yearn for better typeset quality and font variety.

WHAT YOU GET IS WHAT YOU SEE

An attempt will be made to solve this dilemma while being fully aware that it may only make matters worse for your pocketbook. The first advice is not to buy a laser printer -- regardless of low cost -- that can only emulate a daisy wheel device. The dominant emulation of these printers is Diablo 630, followed by Epson FX-80 and Qume Sprint II. Courier 10 is one of the most prominent typewriter faces emulated along with pica, Prestige Elite, and a proportional sans serif. Although a few drives will support proportional spacing, many are limited to monospace "typing" in 10, 12, 19, or 22 characters per inch.

With monospaced type, all characters occupy the same horizontal white space regardless of the letters' body size. For example, the vertical bar, the thinnest character, takes up the same space as the much wider capital "M" and "W". The quality of monospaced type is dull, monotonous, and as some have said, it is a friction to reading.

Proportionally spaced type, ala daisy wheel, was an attempt to horizontally space characters based on their body width. However, for the 92 or so upper

and lower case characters generated by a keyboard, there are only a dozen different width values. For typeset copy, some fonts may use 40 to 60 different width values for the same 92 characters. This variable spacing, the artistic style of the fonts, the variety of bold and italic faces, and the different sizes give typeset copy its elegance and quality.

Many vendors of plain vanilla laser printers will argue that their devices can produce high quality typeset copy. And they are right. Indeed the printers do have this capability. They are imaging devices, but can they produce? You must find special driver software and special (usually limited in variety) font libraries that are supported by your desktop publishing system. And because of this tailoring for a target printer, there generally will not be the flexibility to use other desktop publishing software or other laser printers. In this respect, uniqueness is a trap.

EXPENSIVE QUALITY NOW AT LOW COST

Typeset quality has never been inexpensive, but with desktop laser printers, the costs are now drastically lower. Where a page set by hot lead can cost around \$70 commercially, desktop laser printers can offer the same page for 75 cents. Your page costs for home laser printing will range from 3 to 10 cents excluding labor and paper. It's not hot lead quality, but it is acceptable near typeset quality (NTQ).

Laser phototypesetting can work in ranges of over 2000 lines resolution to produce typeset quality whereas desktop laser printers operate at 300 lines per inch. Within a year, these devices will be operating at 450 lines like their more expensive cousins. But there are limits. Where photographic paper or film can hold a higher resolution, desktop laser printers are limited by their copier based technology.

Although laser beams can be made much smaller, there is a limitation in the granular size of the toner (black powder) that is attracted and fused to the paper to make an image. The paper must be fine grained and not porous. Laser printing may not be acceptable resolution and speed for desktop the quality of phototypesetting, but it is superior to a dot matrix printer with much larger type forming pins roughly 1/72 inch in diameter -- four times the size of a laser beam. Although laser printers give typesetting, they are simply electrostatic or xerographic imaging devices. The type fonts are electronic specifications that intelligently drive the laser beam mechanism and produce graphic representations. The typesetting capability is measured primarily by the fonts, sizes, and type

faces that are available to drive the laser engine. And how they are driven to the printer is dependent on the page driver software.

BEWARE OF VODOO MIRRORS

Electronic imaging of characters makes possible a wide variety of type styles. But, are they available for the printer you are considering? Voodoo salesmen may assure that the printer will do everything you want, and more! But getting from your ASCII text file to desired typeset copy can be a maze with more than one stop sign. For those who are entertaining the use of a font editor to design laser type, discard the idea immediately! Font design is for artisans more so than technicians, and production of a high quality font takes months and in some cases years. Buying a mallet, chisel, and a block of marble doesn't make a sculptor.

FONT VARIETY AND QUALITY

The finest quality laser font libraries available are from Adobe Systems. They were copied and digitized from the classic hot lead type families and include Times Roman, Century Schoolbook, Bookman, Helvetica and a dozen other fonts licensed from the original owners -- Mergenthaler, International Type Corporation, Haas, Linotype, and Stempel -- who retained renowned artisans for the designs. The fonts chosen by Adobe are the bread-and-butter of the industry, the ones used for 70-80 percent of the publishing market. They are conservative, graphically pure, readable, and they are in many ways typographic standards of the publishing industry.

Other font producers like Casady, Century, and Image Club collectively have over 300 laser fonts also available for the Macintosh. In variety, they overshadow Adobe's offerings. However, they are very stylish and useful for an Oktoberfest brochure, a circus poster, or highly stylized display. They account for a small percentage of day-to-day publishing. What these companies provide is a wide selection of type to meet almost any need you may encounter. They have furnished spice at a reasonable price.

WHICH FONTS?

For book or magazine publishing, the Adobe library of fonts is first class. As with other laser fonts, the marvels of electronics can turn these fonts into bold, thin, italic, outline, mirror, etc. However, the library fonts specifically designed for bold face and italic are higher in quality than those generated by mathematically skewing the normal type face. Electronics can also expand the font sizes from 4 points (you recall that there are 72 points to the inch) up to several hundred points. Some fonts are limited only by the size of the page -- how about a 500 point or 7 inch high character? Characters can also be offset from the baseline to produce true superscripts and subscripts. Special symbols such as an integral sign or a large two line

Sigma are also included in some libraries. Designing type fonts is costly, and it is difficult to produce artistic quality and the variety needed. For the moment, my bets are firmly placed on Adobe. Over the past several months, the stock market has proved this more than once. After a two for one split, their stock has climbed back to its original price before the split.

P.S. -- HOW TO MAKE A PAGE

The first requirement for your investment is therefore a high quality font library. This is a major part of the solution, but only half the loaf. How is the laser beam driven to produce typeset quality? At 300 lines resolution, there are 90,000 dots per square inch or 7,848,000 dots or pixels that fill an 8" x 10.9" page. A simplistic driver can lay down dots one at a time. Although the laser beam moves quickly, a full page may take an hour to produce! Additionally, one megabyte of RAM would be required to buffer the entire page image. For a taste of this turtle graphics speed, try printing output from *Publishing Partner* to a dot matrix printer. And remember that dot matrix is producing less than 25 percent of the pixels that are imaged by a laser printer. So the answer to this second part of the problem is a high level description language that in essence takes the font graphic information and its placement on a page and cranks it into a program that in turn drives the laser beam.

PostScript from Adobe provides this Page Description Language (PDL). Although there are others, Adobe's is the most prominent (more later). And although it has its quirks, it works and works well, and Adobe does provide significant enhancements. How does it work? Your desktop publishing software, like *Publishing Partner*, *Ready, Set, Go!*, and *PageMaker*, prepares the font and format information, along with your text to produce a *PostScript* output file for the printer. This file is then processed by the *PostScript* interpreter in ROM. Encoded data for each font is fetched from the Font Dictionary to produce character drivers. This is compiled along with a series of commands into a program that resembles the FORTH language style. Commands can draw lines, curves, and fill areas that describe the size and shape of character graphics. In this manner, efficient paths are constructed to stroke information to the page. *PostScript* interprets the program to drive laser beam strokes. These strokes electrostatically charge the paper and attract black toner to produce type and other graphic images. A PDL like this can produce copy much faster than imaging dots.

The advantages of *PostScript* are that it is device independent, and gives you choices in output devices, it is becoming an industry standard to underpin your choice of this PDL, and it is supported by most of the desktop publishing software available for personal and micro computers including *Publishing Partner* for the ST. You have assurances of operability and flexibility in use with a range of software and printers.

This driver concept was pioneered by Xerox in 1970 with its *InterPress* language. However, *InterPress* has been limited for the most part to the Xerox line of office systems and floor standing laser engines. Others have been developed and fall into the category of either Page Description (PDL) or Document Description Languages (DDL). Adobe has been the leader in this area with the *PostScript* PDL. At the recent FOSE show (Washington, D.C. April 1987) most manufacturers of laser printers either had a *PostScript* compatible printer or were introducing one within months. These include Apple, QMS, Quadrum, Cannon, NEC, Texas Instrument, DEC, Diconix, Facit, ITT Qume, NBI, and Sun Microsystems. This should tell something about *PostScript* as a standard.

MORE CONVERTS

Both IBM and Wang have seen the handwriting and signed licensing agreements with Adobe. Foremost among the reasons is that *PostScript* is not only spreading across the desktop printer market, but Adobe has been able to attract some of the larger phototypesetting equipment manufacturers like Allied-Linotron, CompuGraphic, and Agfa-Gevaert. More are bound to come as personal desktop publishing migrates into the office place, small business, and the cottage industry. A user or customer, with the device independent facilities of *PostScript*, can easily and quickly move from several desktop laser printers to higher quality phototypesetting at 1200 and 2500 lines per inch. Many of the quality publishing houses are producing typeset "proof" copy on laser printers, and after correction and modification, are using the same *PostScript* file to produce higher quality camera-ready copy on phototypesetters. No other description language lets you quickly use these different levels of typesetting capability and no other product like *PostScript* makes it as easy to work in this market place.

An equally important factor in *PostScript*'s dominance is the desktop publishing software itself. Although Xerox was into PC publishing early on, their higher cost *Alto* or *STAR* system was confined to the office place. Apple teamed with Adobe to produce the Apple *LaserWriter*. Adobe provided the fonts, both downloadable and in ROM, and produced the *PostScript* interpreter software in ROM. The font and *PostScript* ROM's were built into Apple's *LaserWriter* which is itself a small but powerful computer. Then Aldus produced *PageMaker* for the Macintosh. To this day, this software is the standard against which all others are compared. Macintosh also attracted Manhattan Graphics with *Ready, Set, Go!* -- a contender. The *LaserWriter* with *PostScript*, Adobe's font library, and *PageMaker* formed the combination that put Apple into the cutting edge and forefront of desktop publishing.

This desktop publishing combo has been so successful in the marketplace that IBM and MicroSoft (*Windows* with mouse) have finally seen the high intensity light. Aldus has now ported

PageMaker over to the IBM PC so that it can join this new race. Wang is also trying to move into this arena by developing a desktop publishing system. Rumors are that *PageMaker* may be ported over to operate on a Wang PC. But Wang doesn't have the full graphic screen capability nor does it yet have a mouse. So another enterprising vendor and systems integrator has stepped in with a solution. It consists of Macintosh workstations connected to Wang's VS series of mini computers. The VS host will give multiple access to Wang's *PostScript* laser printer. Their printer engine is from Xerox. The Mac will be able to take Wang Office files or ASCII files from an IBM PC and produce laser print or higher quality copy on a *PostScript* phototypesetter.

QUO VADIS, ATARI?

Where does this leave the ST user and Atari? Both are faced with the same options and the same dilemma -- cost. *PostScript* compatibility and Adobe licensing fees increase the cost of a laser printer by almost \$2000. But the add-on boxes for *PostScript* compatibility are more expensive. QMI offers an interface box for \$3000.

IS POST SCRIPT WORTH IT ?

PostScript is similar to our NTSC television broadcasting standard. And because there is such a standard, we are able to turn on our televisions and watch shows from all stations that follow the standard. Had any problems lately? If not, try a television broadcast made for the PAL or SECAM standard. Now you have problems.

PostScript is not an agreed to standard, but the large number of equipment manufacturers that have adopted it are making it a *de facto* standard. The message is clear, if you want to obtain quality and value for your software output, buy a *PostScript* compatible printer. A wide variety of font libraries will fall into place and you won't be forced into a narrow, inflexible, and possibly obsolete option.

Remember also that two versions of each font are required -- one for the printer and one for the screen display. The screen display font is mapped on less resolution than the printer version, but it is proportional so that it gives a "what you see is (almost) what you get" representation. Adobe fonts as well as other *PostScript* compatibles provide both fonts -- but at the moment they only exist for the Macintosh!

AN EXCELLENT PRINTER -- BUT !

An attractive, high quality printer is the Hewlett-Packard *Laser Jet*. It is reasonably priced. But Hewlett-Packard is one of the staunch hold-outs against adopting *PostScript*. HP maintains that their Document Description Language is superior. It very well may be, but it does not yet have a market base.

In some ways, this is analogous to situations in weapons technology. For example, during our American Civil War (yes, this is another hobby shared with the ST) the Spencer repeating rifle was clearly superior to the muzzle loading musket. But it was only issued in limited quantities in 1863. It did not see wide spread use during the remainder of the war. Was the military backward? No, they were practical. The cost and logistics of manufacturing special ammunition (non-standard) and supplying it to the armies was overwhelming. Did Spencer make it in a big way after the war? No! A better weapon later came along and replaced both the older musket and the Spencer.

Hewlett-Packard uses the Cannon engine and has produced a superb printer in the *Laser Jet*. The output is amongst the best of laser printers. But, if *PostScript* PDL is not adopted (rumors say it will be), HP will be the Spencer repeating rifle of the laser printing era. Their attack on the market without *PostScript* is reminiscent of an H. Allen White story about the Rose Bowl tournament. At half time, a spectator walked to the center of the playing field, reached under his coat and pulled out a pistol. Waving it at the jam packed crowd, he proclaimed, "Everybody stick-em up".

NO SMOKING GUN FROM ATARI

Atari Corporation is trying to figure out what pistol to use, and we the users are cautious about raising our hands. *PostScript* along with a host of font libraries readily available from Adobe, Allotype, etc., would appear to be the logical choice. If there is any question in your mind, just pick up the phone, call (301) 424-3942, and order MacTography's *Laser Sampler II* for \$25. It is a loose leaf catalog of over 300 type fonts and faces that run under *PostScript* on the Macintosh. It was produced on a *LaserWriter* and this high quality publication, with over 350 page samples of styles and sizes for each font, is worth more than the cost. Or you can write to 702 Twinbrook Parkway, Rockville, Maryland 20851. Your first question after being dazzled by the quality and variety will be, "Why can't I have this capability?"

To a great extent, you can with the *Magic Sac's* ability to run *Ready,Set,Go!* and *PageMaker*. But you need a *PostScript* compatible printer. So, to provide one, it would appear that Atari realistically should go ahead and acquire access to Adobe's *Post Script*, it's Rodin, instead of hiring a chisel and marble block and trying to create their copy of this work of art, with the resultant immediately apparent lack of quality.

IDEAS MUST PAY OFF

Atari's idea of a low cost printer using the intelligence and memory in the ST is a good approach. However, where is the intelligence -- the Page or Document Description Language and the variety of font libraries? The answer is available right now from Adobe. *PostScript* and the fonts shown in *Laser Sampler II* could be loaded from disk to the ST's expanded RAM along with desktop publishing software like *Publishing Partner*. However, is this the best approach? Would a hard

disk make it faster, should multi-tasking be used, or would a two step process -- interactive pagemaking followed by batch PDL processing to the printer -- be an answer? Or is the best answer a ROM resident *PostScript* interpreter with basic fonts?

WHO DRAWS FIRST ?

Somewhere, someone must draw the gun! Does Atari or SoftLogik license the font library and *PostScript* software from Adobe? Or does Adobe port this to the ST and sell directly through Atari dealers? No one likes to pay licensing fees. It raises prices and cuts into sales and profits. Adobe takes the Prime Rib sales approach while Atari, McDonald's style, has demonstrated it can sell to hundreds of thousands of hungry Americans.

If I were an entrepreneur with the technical expertise of Atari, I would build the *PostScript* companion -- an interface box that would connect between any computer and any laser printer. It would have a mother board with *PostScript* interpreter and the Adobe fonts in ROM. In addition, it would have 1.5 meg of RAM to handle full page graphics and other downloaded font libraries. It would be equipped with serial, parallel and DMA ports and use fast 32 bit architecture. The price would be targeted at or under \$500.

Atari has demonstrated that from the parts and manufacturing perspective, this can easily be done. But would Adobe's licensing fee make the price excessive. Adobe is in the position to become for the laser printer world what MicroSoft is for the PC world. But will the demands for high unit returns for their inventiveness prevent this? Time and again, the fallacy of this approach has been clearly demonstrated. High priced products with wider market potential don't invite -- they beg to be cloned! The IBM PC's and the clones that undercut IBM sales are a good example. Also look at what happened to Epson with lower price competition.

The low cost *PostScript Companion* would have a wide marketplace -- any personal, micro, or mini computer owner who has or who wants a laser printer for typesetting. This could make Atari's low cost printer sit up and talk and give it an equally wide marketplace well beyond the Atari community. It is in line with Atari's idea for the powerful and low cost IBM PC clone. The "*PS Companion*" would be as good a bet as selling floppy disks or AA cell batteries. How can you loose?

Is Atari right? Is it cheaper to invent a wheel than it is to buy one? Until Atari figures out its direction, or until an enterprising person comes along, stick with a *PostScript* compatible printer! You will be able to generate the limited fonts available with *Publishing Partner*. And you will be able to access Adobe's font facilities by using the *Magic Sac* and *Ready,Set,Go!* or *PageMaker*. If Atari comes out with its PC clone, the IBM version of Aldus' *PageMaker* can be used. Atari wake up! Adobe's phone number is (415) 852-0271. In the mean time, we users must wait. Atari doesn't answer its phone! Hopefully Adobe will.

PSAN Feature Article - ST & 8-Bit

THE FREWARE CONCEPT

Is it a good deal, and for whom?

By Thom Lawless, R-ATARI CLUB

These are my own actual experiences. They are, however, sadly typical of many other authors I have spoken with who have released their 'efforts' via the FREWARE concept.

I think first we should review the 'Freeware' concept/agreement. First an author writes or builds a product. It is then released to the public. The author asks for compensation in the form of donations. But only if you (the user) think the 'product' is worthy of it. The author wants donations so as to be able to continue developing more and better products for you (the user) to use. Sounds pretty straight forward, not to mention reasonable. I can't think of a better way to purchase a product, you try it out, you use it for all it's worth, it's not copy protected, and in the end, you decide what it's worth.

I really enjoy hardware 'hacking'. In fact part of my job involves finding solutions to seemingly impossible hardware failures. This keeps my job interesting and challenging. It also fits right in when working with ATARI computers. You know just what I mean, too. You've heard the guy down the block say, "my computer can do this ..., bet your's can't!", or "I have 640K of memory and you only have a little toy 64K machine.", you know the guy I'm talking about. Well, being the problem solver type, I decided to turn the tables and make 'him' eat 'crow' for a change. That's what brought about those two articles featured here in PSAN; POWER MACHINES. (Ed., March and May 1987 issues.)

I know you're wondering what all this has to do with 'Freeware'. Read on 'cause here it comes. I recently got a call from, (don't worry I won't mention your name), during the course of the discussion 'freeware' came up and this person said, "you must be rolling in dough (money) from those two articles. I know 10 or 12 guys here alone that have installed your upgrades, and thought it was the greatest thing since sliced bread. There must be money just flying into your mailbox." This person then asked what kind of R&D work I was up to now with all that new found wealth (R&D stands for research and development). I have had several such conversations over the last 4 or 5 years.

It all started when I released a 256K upgrade for the 1200XL in 1983. I had had a few articles printed in other magazines covering anything from utilities to hardware upgrades. Do you really want to know how much money I have received for my efforts?? I think you will be embarrassed. Well, wait a minute while I finish my story. I had received no donations for my first three articles, other than the publisher's 'we printed it' paltry submission fee. Then came my 576K 1200XL upgrade. I thought, this will get some attention. After spending more than \$300.00 of my own dollars on hardware, and countless hours both on hardware and software, to perfect this marvel, I got it printed. I asked that the Freeware concept be applied, on hardware, that was a novel approach at the time - I had only seen Freeware used on software. I got a response, (about 50 letters), mostly on slight problems in obtaining parts, or how to use the extra memory other than as a ramdisk, ect., a few even told me they thought the upgrade was really good, and would send something in their next letter (check's in the mail, I've heard that a hundred times!!). I answered every letter I received, and tried to help as much as possible, be it with sample programs or addresses of manufacturer's. What ever the person was asking for I tried to provide them with. All out of MY

pocket, I can only remember one person sending me an envelope with a stamp on it! This was getting me nowhere. Still I kept at it. After all, I wasn't really in it for the money?

I for one, really believed in the Freeware concept. I've sent money on most every Freeware program I have. They were that good (like AMODEM X.X). So, when I moved here to the Northwest, I changed tactics a bit and started charging a small fee for the plans (\$5.00). That barely covered the cost of printing, a disk, and mailing fee's. I think I made about \$0.42 per sale. Not much of a profit, but it was better than paying to upgrade someone else's Atari computer.

Then I joined 'R' Atari club in Oak Harbor (it's now part of the PSAN network). I thought, well, let's try this again. And so the POWER MACHINES series was born. Now, do you still really want to know what I have received for my efforts? Are you really that brave? OK, I guess you are. I won't keep you in suspense any longer, (heh heh!). I can count it on one hand. YES, I said ONE HAND! I have received exactly \$5.00. You say, that just can't be! I know 'so an so' did that, and 'he' said 'he' was going to send something... Well it's the 'bare' truth (pun intended). My empty mailbox (and my wife) will vouch for this.

The bottom line is, if you like a product and it's 'Freeware', donate something. Even a letter of acknowledgment is better than nothing (but not by far!) - at least the author will get something out of it! Developers work hard at bringing their efforts to you. The pay is lousy, the hours endless, and you (the user) are the one that benefits from this labor.

So do something to make 'them' want to provide a good product for a reasonable price! I think this is a pretty reasonable concept. If the majority of you don't agree, however, then please don't be surprised when these freeware developers take their good ideas and products to the commercial market! Then you'll really have to pay to get it.

Think about it...

Thomas Lawless



PSAN Feature Article - ST & 8-Bit

ONE FOR THE PHONE

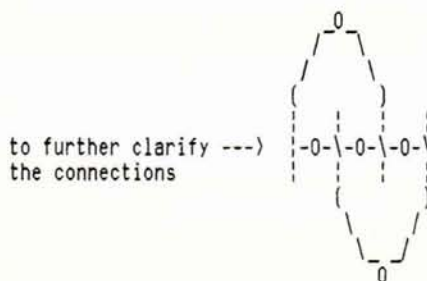
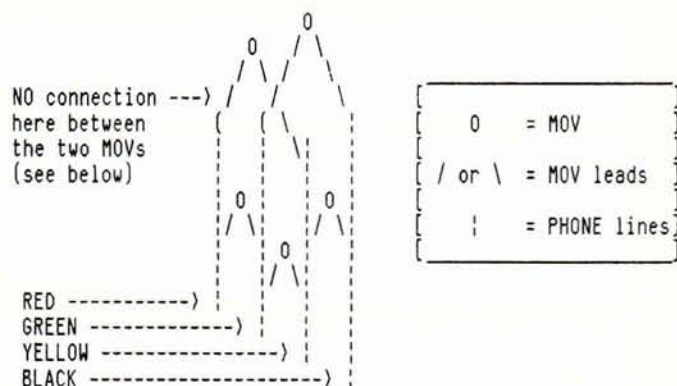
Build a Telephone Line Surge Protector!

By Chemical Kidd, Houston, TX

(From SKYLINE BBS (303)457-0320 via TeleTalk 2/10)

To build a protector for a phone line is basically the same as building one for your AC line. The biggest difference is the maximum voltage the Metal-Oxide Varistor (MOV) should begin to activate; eg., AC line voltage is about 120 VAC and the MOV swings in at 130 VAC. For the phone lines the MOV should swing in about 7-8 VDC.

The diagram for the protection of all 4 wires entering the modem is as follows:



OLD DOG - NEW TRICK!

By C. Robert Brim, S*P*A*C*E

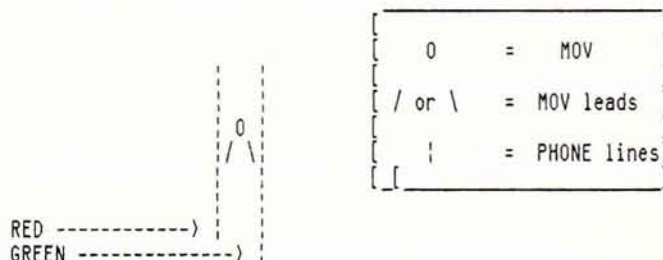
This senior citizen figures if he could fly a Robertson B1-RD ultralight at age sixty three, five years ago, he should be able to learn how to fly an Atari 1040ST now. With assistance from S*P*A*C*E and the friendly folks at Butler's Computers, the old dog is learning a new trick.

The learning process would be painfully slow if teaching tools were limited to written instructions and equipment manuals. The authors of those texts presume the student understands some computereze language, slang dialects, and has some knowledge of the hard/software. This is not a fair inference for those of us old dogs who can only bark in native tongue.

(Continued next column)



Judging from the size of the \$19.95 phone surge protectors, the diagram being used is as follows:



As stated in the previous section, this last diagram works fine if only one (1) line gets the surge. But, if both lines get zapped, you can forget it ever working. Red and Green wires are your carrier lines but, with today's new rules on do-it-yourself installations, double-check to be sure.

The case for using five (5) MOVs runs somewhere in the neighborhood of \$5-7. The cases are available from various hardware sources & electronic supply co.

AND, once again due to my inability to control the construction of, choice of materials,....etc., etc., etc. I can assume NO responsibility!

(Old Dog - continued)

Fortunately for a beginner of any age, participation in a Computer User's Group makes the learning process faster and more fun. Computer users of all skill levels are generous in sharing their knowledge and enjoy demonstrating their techniques. The combination of "user friendly" hard/software and friendly computer users is hard to beat. S*P*A*C*E and kindred groups are where the friendly computer users share, teach and learn.

This senior citizen has gone into competition with the PSAN groups by starting an Atari User's Group at home. It is called GEN*GAP. The first recruit is three year old granddaughter Kathryn. You solo pilots won't know half the fun of flying a computer until you have a youngster on your lap moving and clicking the mouse. Move over PSAN!

[Editor's Note: Obviously, being an avid Atari computer enthusiast is not limited to any particular age groups. Bob Brim, at age 69, may be the oldest user group member in the Northwest (are there any challengers?). As the S*P*A*C*E Assistant ST Librarian, he regularly contributes many hours of labor to maintaining the S*P*A*C*E ST public domain disk sales library at Butler's Computer Service in Federal Way.]



THE ATARI ST DESKTOP PUBLISHING SYSTEM

ATARI SLM804 LASER PRINTER

Design Philosophy

Atari SLM804 Laser Printer Controller

- o resides on hard disk DMA bus
- o ACSI device host software interface
 - Test Unit Ready
 - Write
 - Mode Select
 - horizontal dpi resolution
 - top, bottom, left, and right margins
 - Mode Sense
 - image width and height
 - horizontal and vertical dpi resolutions
 - top, bottom, left, and right margins
 - fat or skinny pixels
- o video interface to printer engine

Atari SLM804 Laser Printer Engine

- o electrophotographic with scanning semiconductor laser
- o 8 pages per minute throughput
- o 300 by 300 dots per inch resolution
- o accepts letter, legal, and A4 size paper
- o accepts envelopes and transparencies
- o automatic or manual feed
- o 250 page input capacity with face down output
- o simple status indicators
 - Ready
 - Wait
 - Add Paper
 - Check Paper Path
 - Replace Toner
- o separate toner and drum units
 - 3000 pages per toner unit
 - 10,000 pages per drum unit

The Atari ST Desktop Publishing System

The Atari ST Desktop publishing system consists of two main components:

- Atari Mega ST computer
- Atari SLM804 Laser Printer

The Atari Mega ST computer is based on an eight megahertz Motorola 68000 microprocessor, with four megabytes of RAM available. The system includes a built-in 720K 3.5" floppy disk drive and numerous expansion ports. These include a Centronics-type parallel interface, an RS-232 serial interface, and a high-speed Direct Memory Access (DMA) port for high-speed data transfer. This port is used for hard disk drives and the laser printer. The laser printer controller board has an additional plug for "daisy-chaining" DMA devices, so the hard disk and laser printer can both be connected simultaneously.

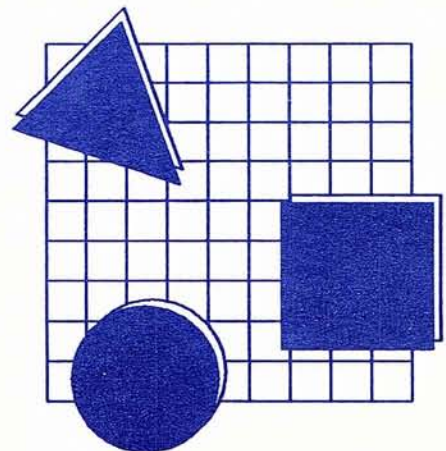
The Mega ST4 supports the laser printer by building a page in memory, then sending it to the laser printer over the DMA bus. A Diablo 630 emulator for the SLM804 allows any ordinary program, like First Word or STWriter, to use the laser printer like a high-speed Diablo with easily changeable fonts.

Programs like Microsoft Write and Easy Draw, which make more complete use of the laser printer's capabilities, can communicate with the laser printer using GDOS. Using GDOS, a developer can write and debug software on an inexpensive dot-matrix printer. When using the laser printer's GDOS driver, the application will automatically benefit from the laser printer's increased resolution. This document was written with Microsoft Write, then printed on an Atari SLM804, making full use of multiple type sizes, etc.

The Atari SLM804 Laser Printer contains a laser printer engine capable of 300 Dots Per Inch (DPI) vertically and horizontally. The paper tray holds letter, legal, or A4 size paper. The normal feed of paper can be stopped, and the printer fed an individual sheet. The printer can also print directly on transparencies.

In competing systems, the laser printer contains its own microcomputer just to feed data to the laser printer engine. Because of the speed and power of the Atari Mega ST, the Atari SLM804 doesn't contain complicated control circuitry; the Mega ST handles all the hard work. By eliminating redundant circuitry in the Desktop Publishing System, Atari delivers:

Power Without the Price!



Club News

PARTICIPATING PUGET SOUND AREA USERS GROUPS

B.R.A.C.E.

BELLEVUE-REDMOND ATARI COMPUTER ENTHUSIASTS

PRESIDENT	Jim Yee	643-9697
VICE PRESIDENT	Richard Coate	547-0460
CO-EDITORS:	Max Pinton	455-3548
	Wally Wong	641-1866
TREASURER	Joe Asaif	746-0737
SECRETARY	Gary Skelton	454-7488
BBS SYSOP	Everett Tsang	

Meets: 2nd and 4th Mondays of the month at 7:00 PM at the Lake Hills Library, 15228 Lake Hills Blvd, Bellevue, WA.
Mail: P.O. Box 70097, Bellevue, WA 98007.
Dues: \$15 per year.

EDITORS' NOTES

Out with the GOOD and in with the NEW!

Rich Coate has given up his illustrious position as the editor of the BRACE section of PSAN and the brave souls of Max Pinton and I, Wally Wong, have volunteered to take his place.

Rich, thanks for doing a terrific job! We are grateful for all the time and energy you've spent putting together the BRACE newsletter before it went to the PSAN format and after. We realize and respect all you have done for BRACE, the challenges you've overcome; creating a semblance of a newsletter from almost non-existent member contributions. Begging and pleading for contributions must have felt like squeezing blood from a turnip (or asking for software developers for new products for the 8-bit Ataris). Again, thanks to Rich, and to all those who have assisted him in his endeavors.

The NEW editors:

Well, I done and did it, volunteered as one of the co-editors for BRACE's participation in PSAN. Along with Max Pinton, we plan to give you inciteful news (real or imaginary) about the Atari community.

A couple of projects we have in mind include a regular column on programming in BASIC (and eventually work our way into ACTION! and other languages members may have an interest in), officer's reports, disk library updates, a survey of the members to find out the needs and desires of the members as well as the make-up (hardware, software, interests, bluish, eye liners, etc.) and on top of all that, we'll be chasing you down for articles and reviews. Remember, this is your newsletter and how good it is depends on members contributions. (So much for the guilt trip, onward!)

You may asked what possessed me to take on the duty as co-editor? No, it wasn't the full-nelson by Rich or anyone else. As any regular member of BRACE have noticed, the energy and participation during the last few months was starting to drag a little. One of the major reasons is that the members who have participated and generated most of the enthusiasm have had their energies diverted to Atari Trek (and I must say, have done a super job, kudos to you folks!). Not one to pass judgement on others, I sat like a bump on a log along with some of the others. Another reason for the lack of participation is that some of us are a little shy in

participating during the meetings. Or that we assume that everyone else knows the answers and you don't want to look foolish asking a "stupid question." C'mon folks, there is no "stupid questions" or "stupid statements" for that matter, stand-up (or sit if you want) and become involved. If you feel the officers aren't giving you an opening to say or do what you want, make an opening for yourself! If they don't see your hand waving, throw something at them! Get the message! Now don't forget to bring the tomatoes.

Background: Wally Wong

I have my Masters in Art (Photography) but program and provide consulting and training on DEC mini and super-micro computers for a living. (Doing Photography as a Fine Art doesn't put dinner on the table or keep a roof over your head. Some can but about 99% can't. I'll save that story for some other time.) My system consists on a 256K 800XL (did it myself even), a 130XE modified with the much nicer 1200XL keyboard (I tried the 130XE 320K upgrade but it just wouldn't behave), an 810, a 1050 with ICD's Doubler, an Avatex modem running Express! V.3, 850 interface, and a EPSON FX80 printer upgraded to near letter quality. I purchased my first Atari Computer, the 800 in 1980 (\$600.00!).

ATV

"I WANT MY ATV!" Atari Vendors are fading into the sunset. Xanth has new owners. The previous owner, Jim Yee (our faithful president), sold its name and other kudos to Dan Berg and kin. The Seattle store is now closed but a store on the eastside, in Bellevue, is now open. Currently, Xanth of Bellevue is strictly 16-bit (a solemn sigh is heard throughout the 8-bit Atari kingdom) but plans of expanding to the 8-bits are in the works, and probably the PC clones when they appear.

Dan Berg is the kind gentleman who has been bringing his ST to the meetings for 16-bit demos and once offered to be the 16-bit librarian. Dan Berg knows his way around the ST's very well and a dandy selection to carry on the Xanth tradition.

If you have been wondering about Lee Rahfeldt's Mind Mine store and where it went, Lee has shifted its operations from store front to mail order. Lee Rahfeldt, owner of Mind Mine, has moved its operations from the store in Bellevue to his home on Mercer Island. He will continue to service the Atari Community by offering hardware and software at reduced prices. If your not on his mailing list, give him a call at 236-2739.

BRACE BBS IS BACK! (well almost)

Everett Tsang is the new BRACE BBS Sysop. If all goes well, by the time you read this, the system will be up and running and ready to be flooded with uploads and tons of articles and reviews to keep the editors busy. If you've been one of those shy and non-participants at the regular meetings, now's your chance to give the world a piece of your mind on the BBS. Stay tuned to these pages, I'll volunteer someone to write an article on telecommunications, especially using the BRACE BBS.

Everett will also be assisting Joe Maraz, the 8-bit disk librarian, with updating our library. (See what happens when you sit up front at the meetings? Anyway, thanks Everett!)

As Wally said, he and I will take the place of Rich Coate as the editors for the BRACE section of PSAN. Rich has done a great job, and I'm sure we'll all miss him.

Club News

A little background on me: I bought an 800XL about three years ago, with one of those "tape drives." About six months later, I decided to splurge and buy a Rana 1000, second hand. After a year of bad sectors and intermittent double density, I bought a 1050, and later a US Doubler.

In the next few months I hope to write a few articles and a few more of these thrill-a-minute editors notes with Wally, but like any newsletter, we do need news. If anyone out there calls the Atari BBS, text files from there are usually up-to-date and informative. Any articles at all will be greatly appreciated. Just let me know how you want to get them to PSAN; through me (455-3548), Wally, or any bulletin board that's local to either of us.

BRACE MEETING MINUTES

Submitted by Gary Skelton, Secretary

BRACE April 27th Meeting

Rich Coate, Vice-President, opened the meeting in Jim Yee's absence as he was in New York for business.

Jim Dunion, an Atari 8 bit developer, came at the beginning of the meeting and sold most of his old software and hardware for very low prices [Would you believe an 850 for \$10.00! - Wally].

Vic Albino gave a report on Trek 87. It is progressing at an excellent rate and should be a terrific show with an anticipated turnout.

Rich Coate announced that he is giving up the post of BRACE editor and needed volunteer(s) for the position. Starting with the July issue Wally Wong and Max Pinton will co-edit BRACE'S section of PSAN.

Joe Maraz gave the software librarians report that pertained to TREK 87.

It was pointed out that Tom Tjarnberg, former club president, has had a number of software reviews in Start, a new magazine for the 16-bit computers [Murray for Tom! - Wally].

For the demo portion of the meeting, Joe showed the European disk from the BRACE 8-bit library, and for the 16-bit, Dan Berg presented an educational program named "First Shapes."

BRACE May 11th Meeting

The meeting was opened by Rich Coate; Jim Yee was detained in getting to the meeting.

Once again Jim Dunion was there to get rid of all of his unwanted hardware and software. A number of manuals were given away by Jim and these were added to the club Print Library.

This meeting turned out to be mostly demos. Joe Maraz demo'd "Kill a Commie" ["Commie," a derivative of Commodore; the name, not its social preference - Wally] and "Death of An Apple" ["Apple," where Atari should be if the 800 was taken seriously by its previous owners - Wally] from the BRACE Disk Library.

Dave Hanthorn showed an Amiga emulator on the 520 and true to form it ran like an Amiga; poorly, a true lifelike result.

Jim Yee demo'd an Atari 8-bit emulator for the ST's [Note: Darek, the developer of the 8-bit emulator, and Neil Harris of Atari have come to an agreement over the emulator. Once the proper documents are processed by the participants,

one of the major Atari Magazine will publish the program, including source code, and distribute it on a disk. At this point and not before, according to Darek, will it be available through BBS channels. The August issue is targeted. - Wally]. Jim also demo'd "Roadwar 2000" for the 16 bit machines from SSI.

Back to the 8 bit, Gary Skelton showed a tutorial slide show from Senecom that lets you create your own. Everett Tsang was drafted into developing one for the BRACE booth at TREK 87.

Vic Albino reported that all the available booths have been sold for the opening of TREK 87 and it will be a success.

KC-ACE's

KITSAP COUNTY ATARI COMPUTER ENTHUSIASTS

TEMP. PRESIDENT	Bill Penner	(206) 373-4840
SECT'Y/TREASURER	John Fernandes	698-0063
	Mack Burns	437-2751
EDITOR	Darren Tonnessen	842-3992
8-Bit LIBRARIAN	Wayne Boivin	674-2352

Meets: the 2nd Wednesday of the month at 7:00 PM at the Central Kitsap Junior High School in Silverdale.

Mail: P.O. Box 2333, Bremerton, WA 98310

Dues: \$15 per year. **Size:** 75+ members.

SECRETARY/TREASURER'S REPORT

By John Fernandes

JUNE MINUTES: The meeting was opened at 7:25 pm by our president, Bill Penner, with 20 members in attendance. Old business covered included a summary of Atari-Trek, which by all accounts was an outstanding success. In excess of 2100 people attended the show. The club stands to earn about a thousand dollars for its contributions to the show. New items discussed were the departure of our secretary/treasurer in July. Mack Burns volunteered to serve as acting secretary/treasurer until elections are held in September. Software Unlimited on Wheaton Way has agreed to sell the club's public domain disks and newsletters. Ted Tuggle demo'd Computer Eyes and some hard disk utilities. The meeting adjourned at 7:50 pm.

!!!!!! IMPORTANT !!!!!

Our next meeting will be held at the West Park Lanes in Bremerton, near Autocenter Way, at 7:00 pm, on July 8th, the second Wednesday of the month. See you all there!

!!!!!!!!!!!!!!!!!!!!!!!!!!!!

TREASURER'S REPORT: The club treasury is doing well. We have about \$150.00 on tap and 97 3.5" disks, Fuji ss/dd's that are on sale to club members at \$1.25 apiece. The club also has 200 5.25" disks at \$.50 each.

In the upper right-hand corner of your mailing label is the amount of dues owed to renew your membership through 30 September 1988. Most people owe \$15.00. Some owe more if their membership expires before 30 Sep 1987. Others expire after and owe less. Those who owe more must pay promptly or you may not receive your monthly PSAN. Address any questions to me, John Fernandes, at 698-0063. Send payments to:

KC-ACE
PO Box 2333
Bremerton WA 98310

Club News

THANK YOU JOHN FERNANDES

By Darren Tonnessen, Editor

I find it hard to accept that our Secretary/Treasurer is leaving next month. I think that anyone who is a member of the Kc-Aces would back me up in saying that John was probably one of our most supportive members. He did a great job in the club's secretary/treasurer duties; as well as supporting the newsletter. I don't think that he could be thanked enough for the things he has done for YOUR club. You have done more than your part, John. You will be missed. Best of luck, and happy computing. The users group that you join next (hehe) should feel privileged to have you as a member.

Your friend, and fellow 'Atarian',
Darren...

* **KC-ACE's MEETING NOTICE!** *
* Remember: The July KC-ACE's meeting will be at the *
* WEST PARK LANES in BREMERTON, near Autocenter Way, *
* at 7:00 PM on July 8th (2nd Wednesday). Be there!! *

R-ATARI

USERS GROUP

PRESIDENT	Thom Lawless	(206) 321-5127
VICE PRESIDENT	Greg Barnes	678-6305
SEC./TREASURER	Rich Lyon	675-6882
LIBRARIANS:	Eric Koetje	675-4326
8-Bit	Randy Nollan	679-2216
ST	Alex Ancheta	675-7628
EDITOR	Greg Barnes	678-6305
ASST. EDITOR	Charles Onley	675-0425
SYSP	Thom Lawless	321-5127

Meets: The third Saturday each month at 7:00 PM (6:00 PM setup time) at the YMCA on Pioneer Ave., Oak Harbor, WA.

Mail: P.O. Box 845, Oak Harbor, WA 98277

BBS: THE FREELANDER BBS, (206) 321-5127, 9:00 PM - 8:00 AM.

DUES: \$12.00 per year.

FROM THE PRESIDENT

by Thomas Lawless

I think I should start this letter off with an apology. To all those people who have tried to reach me via the FREELANDER BBS or voice, and those whom expected to see me at ATARI TREK '87, I apologize. I have personal reasons, I won't print them here, but believe me the reason was a good one. You'll be happy to know that the BBS is back up and running, we're back home and you can reach me at the above listed number until about 1:00 P.M. Pacific time weekdays and until 9:00 P.M. weekends (the BBS goes up at 9:00).

I did not attend May's meeting for the same reasons, but from what I have heard from some of our members, the meeting turned out to be more of an informal get together than anything else. ATARI TREK was the same weekend...

At this month's meeting we will briefly review the two previous machine language presentations, and then into a short screen fill routine. It will be discussed at length. It will also be available on disk so you won't have to type it in if you bring your own disk. I will also demo a larger screen routine to show some of the real power of assembly language programming.

That about does it for me this month. Next month we should have some new news to talk about. Until then...

Thom

SECRETARY/TREASURER'S REPORT

By Rich Lyon

From our last meeting, there is not much to say. ATARI TREK '87 was that weekend and attendance was low. I was one of the few, (very few), officer's in attendance. The meeting was informal and centered around ATARI TREK '87. General news and 'not to miss' display's were discussed.

As for the treasury, the present balance is \$290.09. We have two months of PSAN coming due this month, (our president is holding the 'bag' for our subscriptions), as well as our 75 new disk's for the library are in. On the bright side though, we are expecting disk sales to increase as the new library listing is available at Isletech Computer store. This will give us more exposure as to our presence in the community. That will translate into new members and disk sales.

That covers it for this month. See you at the July 18th meeting.

Rich

LIBRARIANS' REPORT

By Alex Ancheta and Randy Nollan

It's been quite a busy month for the librarians of this club. First, we have completed the disk library directory, it's now available at IsleTech Computers. Second, we have been working quite hard on coming up with a nice neat boot screen (similar to the one from S*P*A*C*E) that we could put on our own disks. The design is easy, it's getting it on the screen. That is no minor task, as I am kind of lacking in the brain department when it comes to machine language programming. Never fear though, I'm sure there is someone out there that will step forward to give me a helping hand.

Disk sales this month were kind of low. We only sold 2 disks. The reason for the low disk sales is that ATARI TREK just happened to be on the same weekend as our last monthly meeting. Well, you guessed it, I went to the 'TREK' instead of the club meeting. Sorry about that, next time I'll make sure one of the attending officers takes over the library for the meeting.

Randy and Alex



CLASSIFIED ADS For The Members By The Members

FOR SALE: Atari 1040 ST computer - color system (with all standard software), Star NP-10 printer, and a six outlet powerstrip. All in new condition - only one month old! Asking \$1000 or best offer for everything. Contact Eleanor Johnsen at 426-8872 (Shelton). Please telephone during evening or early morning hours only.

FOR SALE: Atari 1040 ST color system with all software - \$900 or best offer. Call Blake at 564-3265 (Tacoma).

Club News

SPACE ST Library Revision Version 1.0 by George Terpening

S*P*A*C*E

SEATTLE PUGET SOUND ATARI COMPUTER ENTHUSIASTS

PRESIDENT	Jess Lantz	473-2420	Tacoma
SUB-GROUP PRESIDENT	Bill Grein	848-6439	Puyallup
ST PRESIDENT	Dave Showalter	824-5141	Kent
HARDWARE SIG LDR.	Greg Pringle	588-4394	McChord
CORRESPONDING SECT'Y	Dave Bambaloff	584-8375	Tacoma
RECORDING SECT'Y	Cindy Bowman	248-2238	Seattle
TREASURER	Tom Neitzel	473-0187	Tacoma
LIBRARIAN	Jim Chapman	582-4269	Tacoma
ST LIBRARIAN	George Terpening	941-7155	Auburn
MEDIA LIBRARIAN	Blake Herring	564-3265	Tacoma
PROGRAM CHAIRMAN	Rod Dickison	431-9820	Seattle
EDITOR	Chris Carson	565-8189	Tacoma
BBS SYSOPS:	Dave Showalter	824-5141	Kent
	Robert Smith	941-5537	Fed. Way

Main Meeting: 1st Saturday of the month at 6:00 PM at the A.P.P.L.E. Co-Op, 290 SW 43rd St., So. Renton, ph 251-6787.

Tacoma Sub-Group: 2nd Saturday of the month at 10:00 AM at the South End Neighborhood Center, 7802 So. L St., Tacoma, ph 591-5098.

ST SIG: 2nd and 4th Tuesdays of the month at 6:00 PM at Butler's Computer Service, 28717 Pacific Highway So., Federal Way, WA, ph 941-9096.

Hardware SIG: 4th Saturday of the month at 10:00 AM at the South End Neighborhood Center, 7802 So. L St., Tacoma, ph 591-5098.

BBS: S*P*A*C*E, (206) 941-2824, 24hr., 300, 1200, 2400 baud.

Mail: P.O. Box 110576, Tacoma, WA 98411-0576.

Dues: \$15 per year. Size: 250+ members.

* **MAIN MEETING NOTICE** *
* The July S*P*A*C*E Main Meeting has been cancelled *
* because the normal meeting date falls on July 4th. *
* Next meeting is August 1st - Special door prizes!! *

TREASURER'S REPORT

By Tom Neitzel

I am pleased to report that we have lots of money and quite a few members.

A more detailed report will be included next month after we get our distribution from Atari Trek '87.

Please take the time to look at your address label on the back of the newsletter. There are some numbers and a code there. The month and year that your membership expires is listed in the upper right corner of the label. If it says 06/87, your membership has expired with this issue, if it is 12/87 it means that your last issue will be the December, 1987 issue. Please send in your membership renewals to the S*P*A*C*E P.O. Box by at least the 25th of the month that your membership expires to insure that you continuously get the newsletter.

The code letters to the right of the date indicate your membership type. "I" means 8-bit member, "IST" cleverly means 16-bit member, "NN" and "NNST" mean that you are a non-newsletter 8 or 16 bit member respectively. By the way if you have an N series code, you have gotten the newsletter by mistake, but don't worry about it. I may have sent it to let you see what you are missing or I might have just screwed up. All of the newsletter exchange labels have an "EXCHG" code instead of an expiration date and an "XG" for type. Vendor's labels have spaces for a date and "VEND" for a type.

Enough for this month, see you at the August meeting.

Since the finish of Atari Trek, I have been working on a revision to the current disks in the library. I have replaced all programs which had several different versions on different disks with the latest version on a single disk. Each disk which had files deleted from it has had new program files added. The disks which have been changed so far are:

SPACE Disk No. 001 - version 2.0
SPACE Disk No. 002 - version 3.0
Space Disk No. 012 - version 2.0
SPACE Disk No. 021 - version 2.0
SPACE Disk No. 026 - version 2.0
SPACE Disk No. 031 - version 2.0

There will be more changes before I start adding new disks to the collection. The club's policy on SPACE Disk updates is that you may bring your old disk to any of the SPACE ST sub-group meetings and the disk will be updated to the latest version including any new programs included.

All old programs are being archived just in case anyone should like to go back to an earlier version (Example the latest version of Procopy which will not copy some of the programs the earlier versions did).

Also for those that bought SPACE ST disks at Atari Trek, some of the disks that we made at the show are bad (One of our disk drives went bad and we didn't know it!). Just bring the disk to one of the meetings or mail it with your return address to me at the following address and we will replace the disk and give you a second special disk with some of the latest PD software on it:

George Terpening
SPACE ST Librarian
5218 South 299 Court
Auburn, Wa. 98001

Or if neither is convenient, call me at the number listed in the SPACE officers' list. So long until next month.

S*P*A*C*E JUNE 6 MAIN MEETING

Minutes by Cindy Bowman

GAMES were the theme for June's Main Meeting and everyone was reminded as they arrived, to sign up for the free drawing later on in the meeting. The newly appointed President, Jess Lantz, opened the meeting by introducing himself to the group; he then turned the meeting over to Rod Dickison, Program Chairman.

Rod had invited Dave Hanthorn to be guest speaker for 8-bit Atari games. Dave is a member of both the B.R.A.C.E. and STDIO User Groups, and is a war game fanatic. He started by telling us a little background on how he became interested in war games and mentioned some of the games he started playing. Dave still plays war games on his 8-bit, mainly because there aren't a lot of war games available for the ST's yet. He brought several examples of the board games including Combat Chess, Battle of the Bulge and Stalingrad. Dave demonstrated how the usual board game is set up with overlays, hexagons, and board pieces that you move around. Of course, the idea of the war game is not necessarily to win all the battles, but win the war. Dave spent the next 15 minutes taking us through a battle between the Russians and the Germans in World War II, while he explained all the steps and symbols on the board, and gave us all an idea of how realistic war games can be. Thanks Dave!

Club News

Since Dave Showalter, ST President, had to leave early, he had left most of the latest ST news with Jim Chapman to announce later in the meeting, during the club news. He did mention that the impression he got from word on CES was that Atari was pushing game systems; evidenced by the lack of ST systems and only one PC clone at the show. He also said that there is a book out by Abacus on Atari disk drives; the how's and why's.

Tom Neitzel was unable to attend this meeting, so we had no Treasurer's report.

Jim was next and he asked how many in attendance had not made it to Atari Trek--there were a few! He passed around a copy of the latest ST World optimistically claiming an attendance of 3000 at the show! (There were really approximately 2300.) He gave everyone the rundown on the Atari Trek show--51 booths had been set up, but we needed 52! Jim mentioned the 128K persistent ram cartridge for the 8-bit, with it's own RAMdisk handler/DOS, and saves information in the cartridge by way of a battery, that lasts about 5 years. This was developed and being shown by T.R.A.C.E. from Vancouver, B.C.. Unfortunately we were sold out of booths and had to squeeze them into an area on the end, so it was quite crowded, and difficult for anyone to leisurely check out their booth. He also asked for anyone to voice their ideas on another Atari show, as the possibility is only a thought at this stage. Is there a better time of the year to have the show? If Atari Corp. is looking to reduce their participation in the number of shows, should we consider having another show on our own, or would we be one of the few cities to qualify for Atari's continued support?

The question was asked on whether the S*P*A*C*E officers had decided what to do with the club's profits from the Atari Trek show. Jim explained that a lot of ideas had come to mind, but nothing has been made a definite decision, as yet....we are open for suggestions, comments, ideas.

Rod spoke up and mentioned that he felt one of the main reason the Atari Trek show was so successful, was due to the fact that the committee members numbered several, and each one did their assigned tasks, without imposing on anyone else's duties. There were also about 200 volunteers who helped immensely on the days of the show. Without the teamwork and numbers of volunteers, the show would have been much more difficult and less successful than it was (hmmm...something to ponder and take note for future Atari shows)!

Jim then announced some of the news that Dave Showalter had asked him to announce about CES....

- * There is a new disk drive for 8-bit computers, called the XF551, retailing for \$160, 2.9 times faster than the regular disk drives we now have, true double density, and a new DOS.

- * In July Atari is supposed to finally have out on the market, their XEP-80, (the 80-column card for the 8-bit) and also their SX212 modem.

- * Because Atari is emphasizing the new 65XE game machine, they are coming out with a series of 256K bank select cartridges, retailing for about \$19.95 each.

- * The Micro D memory upgrade for the ST, either 2 or 4 meg, will sell for \$159 without chips.

- * Hybrid Arts is going to have a new ST program, an ADEP digital sampler, with CD quality, for \$1,995.

- * SSI/TSR's Advanced Dungeons and Dragons is supposed to be out by Christmas of this year.

- * Electronic Arts will have a monochrome version of Computer Eyes for the ST, for \$149.

- * Avatex has come out with a 2400 baud, Hayes Compatible modem, with a list price of \$319.

- * As far as Atari stock, there was a 45% increase in sales for the first quarter of this year, compared to last year.

The next subject was the July main meeting, scheduled for Saturday, July 4th. Some suggested we have the main meeting a different day, others wished to forget the July meeting altogether. When all was said and done, it was decided to

cancel the July 4th main meeting and just have the sub-group meetings during the month. THE NEXT MAIN MEETING WILL BE AUGUST 1ST.

George Terpening then gave an update on the S*P*A*C*E ST library. He mentioned that a number of disks made at the Atari Trek show were bad, due to a defective disk drive. If you have one of those bad disks, bring the disk to Butler's with George's name on it, he will replace it and throw in an additional PD disk; or come to one of our meetings and he will replace it there. George took a breather after Atari Trek and deleted a few duplicate files on the PD disks - disks #1, 2, 12, 21, 26, and 31 have been updated. Bring your old disk to any one of the meetings for free updating!

We had a 15 minute break (or so) and resumed with DOORPRIZE DRAWINGS for both an 8-bit game ("TRAILBLAZER") and a 16-bit game ("SHANGHAI"). The lucky winners were BRIAN HOGAN and BRUCE PROUSE, respectively. We hope to see their reviews/demo's of this software in future PSANs and at meetings.

Attendees were reminded that there will always be something special for everyone at each main meeting, whether it be a free disk, a program, a prize drawing, etc., so don't miss a single meeting!

Jim reminded everyone of the deadline for submitting newsletter articles. He introduced Chris Carson as the new Editor, and asked that any one submitting articles, using the ST, please use ST Writer to make it easier on the editors.

Rod next introduced Bob Harrison to demonstrate Flight Simulator II for the ST. He explained that he is a fairly new user of computers, compared to others, but felt Flight Simulator would be a challenge. He explained that the first month he used Flight Simulator, he couldn't complete a flight, but as time progressed, and his skills increased, his flying improved. Sound effects and all, he took off in perfect form. He stressed the importance of learning the instrumentation and directional to give you status of your flight. Taking off at Oakland International Airport, he first flew a Cessna (and later a Learjet) around the Bay area for the next 20 minutes demonstrating various aspects of the game.

The formal meeting was then adjourned and the audience split into small groups to play/view/discuss their favorite 8-bit and ST games before departing.

HARDWARE SIG NOTES

by Kit Carson

At our July meeting I should have diagrams and instructions to distribute showing how to easily build a telephone monitor/amplifier (the one demo'd at the June meeting).

Also I will repair joysticks and demonstrate how to crimp modular phone jacks; so bring any broken phone cords and/or joysticks to the meeting.

Future meetings will include a memory upgrade on a 400 as well as building an 800XL power supply to replace the solid epoxy ones that tend to burn up.

There's a new local electronics store where you can get 'exotic' items such as 1% resistors for only a quarter apiece! The name is Supertronix and it's located at 18650 68th Avenue South (East Valley Hiway) in Kent, 98032. Telephone (206) 251-8484.

Club News

StarBase

ATARI COMPUTER USERS GROUP

PRESIDENT	Rob Hendershot	745-3440
VICE PRES 8-BIT	Omar Crawford	653-7671
VICE PRES 16-BIT	Doug Olsen	743-4135
SECRETARY	Wilma Crawford	653-7671
TREASURER	Steve Drake	782-3691
EDITOR	Al Cummings	784-8658

* Give us a call if you need help. *
* We want to know how to help the group! *

Meets: 2nd Friday of the month, 6:00 PM at the Mountlake Terrace Library, 236th SW & 52nd Avenue West, Mountlake Terrace, WA.

Mail: c/o Steve Drake, 8307 27th NW, Seattle, WA 98117
Dues: \$15 per year. Size: 85+ members.

FROM THE PREZ

By Rob Hendershot

Summer is upon us, and everyone is focusing on vacations and having a good time. But don't forget our monthly meeting at the Library. Our membership is growing, and we'd like to see even more members attend our get-togethers to exchange info, learn something new, and get to know new people. There's something for everyone at the meetings, so bring a friend and we'll see you there.

Are you a new user and a little overwhelmed by your new toy? Do you have a program of your own you'd like to show? Do you have problems with a manufactured program? We address all of these and much more at the meetings, as well as socialize a little, so don't be afraid to speak up and let us know what you'd like to see and hear. It's a club for all of us, not just the officers or a "chosen few." Our group works with things used in business, household, school and recreation, and just plain fun. We need new members, news ideas, and you to come and join us.

finnestkind

COMING ATTRACTIONS

By Al Cummings

Summer is the time when the computer gathers dust and the body gets brown. Although we do not feel tanning is all that bad, letting your computer sit idle is a real shame. Starbase has many things coming up to keep the interest up until those clouds come rolling back into our lives.

Even us hardcore hackers need to get out get outside once a year, so the first event is the second annual Starbase picnic. The day is Sunday, July 26th at Edmonds City Park from whenever you get there till whenever the last person goes home. The way I find the place is take the freeway exit for the Edmonds ferry and just before you get to the bottom of the hill and the road splits to go to the ferry or to downtown, you want the left road to downtown. Follow this until you get down into the business district and turn left. It is about two blocks west of Main Street and three blocks south of the main shopping area. There is a large baseball field near the street and the picnic area is below that. There is a road that takes you into the park and by the parking lot and the shelters. There are things for the kids and several horseshoe pits.

Anyone is welcome to come and join in. Starbase is not providing anything so bring what you need and we will have a

potluck type picnic. There is always plenty of food and usually some of us will talk computers. There is no beer allowed in the park, but if you keep it in the car they won't say much I guess. See everyone there, and if you need more info on what to bring or how to get there, give me a call.

Also coming in July is the mod clinic at Precision Electronics. Be sure and come over and get into your computer's innards. Lots of fun for the hardcore techie. Look for more info elsewhere in this issue.

The August meeting is when we hold the auction to sell the things members bring in to help the club's treasury. Last time we offered to give 20% back to the donor if he wanted to claim it. Maybe if we offer 50% we would get some larger items. I know of someone who might donate a 1200 modem. Half of \$100 is better than all of nothing. Just an idea, but the auction is always a lot of fun and many members have been moving up to ST's and might have a few things to get off the shelves. Most important is to bring some money and lots of interest in new things. If nothing else you can always re-sell it next time!

The next new thing coming this summer is the spoils of Atari Trek '87 mainly the club's new ST. We hashed out a plan to get the equipment, but nothing was written down as being a deal yet; so if you have some ideas let's hear them. It sure will be nice to have an ST at every meeting and see some of those great demos which have been coming out lately.

Some members were trying to have another pizza meeting and if this sounds like something you want to do, speak up. Last time we voted it down for the time being, but these are fun and a good chance to loosen up a bit. A big screen TV is always nice for those neat graphics; and make sure we have a PA system next time so everyone can hear. There was also some interest in a game playing meeting. We can always wait for the Christmas party, but if you have a better idea bring it up! It is your club, and the best ideas never get done if you do not bring them up at the meeting.

The newsletter is getting better all the time and we are trying to get the word out as much as we can. We added two spots last month, and I have another one or two in mind. We always need more articles and it sure would be nice to see a Starbase member have their work on the cover. Submit something at the next meeting.

The last thing (I promise) is the BBS. What BBS you ask? Well a very generous member (me) has offered to let the club use his system as the club board as well as being the tie-in to PSAN. What does this cost the group you think? Nothing but the time to call and get involved. We are looking into getting a local number put in so those people in Everett can make free calls. Stay tuned for more on that. The system has about 6 megs of PD software for the ST and 8-bit users and is always looking for the newest things to come from the pay services and other areas. Be sure and help out when you can and call today. The July meeting will be around the BBS system and its hardware including the 1 MEG MIO board and a hard drive hooked to the 8-bit Atari.

It is time to turn over and have a cool one. There is more going on in STARBASE this summer than ever before and you won't want to miss a thing.

TREASURERS RAMBLINGS

Since we last met, I received a request from a fellow in Australia and a dude in Montana, for info about our club. The fellow in Montana joined our club. He told me there aren't many Atari user groups in Montana. The fellow in Australia wanted the latest version of STWriter. I told him we'd love to have him as a member of Starbase. My question is, how are all these people finding out about Starbase? I think it's

Club News

great! We're really becoming an internationally based user group.

At the May meeting, the subject came up, about subscribing to some monthly magazines on disk. We decided it was the thing to do, but as of now, I've not seen anything telling me which ones to subscribe to! I'm asking you to tell me which ones you want. What do you want to see in YOUR library? Look for a special buy in the club disk library of your choice, soon!

I've not yet totaled up the income from the meeting, but I'm gambling that our account is up around \$450.00.

If you haven't heard, I've taken on an extra job. The Morcom Disk Organizer people, and I, have joined ranks. They needed someone, here in America, to help promote sales, so I volunteered. We offer a great product and I hope, with some of my ideas, it can become a better one! Look for it soon, in a store near you!

If you are like me, you too, are probably looking forward to our first Mod Clinic! When it comes time to upgrade those 800XL's, you might consider an offer I received from Thom Lawless, President of R-Atari Group, in Oak Harbor. Thom is willing to donate a board he designed, to anyone that will review it in an upcoming issue of PSAN. (I know it's a quality product, because Best Electronics is carrying it.) It offers the 800XL owner 320K or 576K. For further info, refer to the March and May issues of PSAN.

It's time to get back to hacking, so we'll see you in July!

Happy Hacking,
Steve

STARBASE JUNE 12th MEETING Minutes by Wilma Crawford

Our new President Rob Hendershot, called the meeting to order at 7:00. The officers were introduced and their reports were given.

Steve received a letter from Trinidad, West Indies. A gentleman there would like to join our club. Now that's getting the word around!

There will be a modification Clinic at Precision Electronics on July 18th at 12:00. This clinic will be for those who would like to upgrade their 800 computers to 288K of memory. There will be a small fee which will include all the parts you will need.

The topic of a STARBASE picnic was brought up by the officers - the response was not too good. Let us know how you feel about this. Also how does the idea of another Pizza meeting sound?

Steve would like some input on what ST magazine the club should invest in. This would allow us to increase our 16 bit library.

There is a special price on Current Notes (the newsletter from Wash. D.C.). If you sign up with Rob you can get this good Newsletter for only 17 dollars a year.

Bruce brought us a report from the world of Atari Trek. Did you know over 2300 people attended Atari Trek? We also talked about how we would like to see the the proceeds spent and then we voted on the proposal. It was decided we would purchase a 20FM, a double sided disk drive, and a color monitor for the 16-bit library. It was also decided we would purchase a printer for the 8-bit library, and if there is enough money left over, a 130XE would be bought.

The meeting was closed with a demo from Rob of a Morse Code

program for the 8-bit Atari.

Thank You to all who attended the June meeting. See you next Month.

Librarians Report By Omar Crawford

Well here it is another nice, hot evening for our meeting and too few show up.. I know... it's too nice outside to be indoors.

For those who didn't show up, we had a very good meeting. The details should be elsewhere in this issue... Speaking of which, our magazine is getting to be top notch looking.

As for the library the following were added last month:

disk #167 ANALOG for April
disk #168 ANTIC for June
disk #169 SCOREKEEPER - for you gamers to keep track of your high scores - It will be demonstrated again this month.
disk #170 WORDS ARE FUN - probably the best wheel of fortune game ever.

The following will be added this month:

disk #171 ANALOG for May (hopefully also June & July).
disk #172 ANTIC for July.
disk #173 TURBO-BASIC for the 400/800.
disk #174 PRINT SHOP PICTURE LISTER
(prints 70 icons per page).

and whatever else that I can acquire between now and July.

SPECIAL This meeting ONLY:

Buy one single-sided disk and get one S/S disk free.

Buy one double-sided disk and get one D/S disk free.

Limited to stock on hand at the meeting - anyone wanting to make sure they get the disks they want should call (2:00 P.M. to 6:00 P.M. MONDAY thru FRIDAY ONLY) and order them in advance and I will have your copies for you at the meeting.

Also this month will see some of our disks for sale at PRECISION ELECTRONICS in Redmond, 7990 Leary Way.

Well that's it for now -- see you next month.

STDIO

ATARI ST Computer Users Group

PRESIDENT	Jim Adams	488-3536
VICE PRESIDENT	Dave Hanthorn	232-3009
SECRETARY	Jim Yee	643-9697
TREASURER	Paul & Jolene Bolme	882-1536
EDITOR	Joel Check	881-9375
DISK LIBRARIAN	Mike Shurtz	485-5605
BBS SYSOP	Mike Check	828-0258
PROGRAM CHAIRMAN	Bruce Noonan	775-0545

Meets: 1st and 3rd Mondays of the month at 7:00 PM at Data IO, 10525 Willows Rd., Redmond, WA.

BBS: STDIO, (206) 822-4085, 300 baud.

Mail: STDIO, 16520 126th Ave. NE, Woodinville, WA 98072

Dues: \$15 per year.

* Newsletter submissions can be uploaded to our BBS, *
* brought to meetings, or via any acceptable method. *

Club News

MEETING MINUTES

By Jim Yee

STDIO May 18th Meeting

This meeting being right after Atari Trek, started off with observations and suggestions for future shows. The ST door prize was won by the grandparents of a Starbase member. Someone noted that there was a lack of NEW products at the show and that touched off the regular vapoware debates and speculation about blitter and other likely Atari developments.

The Meetings scheduled events were, however, pre-empted when I brought Tom Hudson (author of Degas, Degas Elite, CAD 3-D and CAD 2.0) over for a visit. Tom proceeded to give a detailed demonstration of all the capabilities of CAD-3D 2.0. The most amazing part was he demonstrated how quick you could create one in just 15 minutes by explaining how he did the Xanth logo animation that was running at Atari Trek! He closed by showing a series of stunning animations. Space probes orbiting planets, disc's mutating into vehicles and flying into disk drives and fighters diving at the viewers and launching missiles. Great program program, Thanx Tom.

STDIO June 1st Meeting

Note: This weeks minutes were taken by Jim Van Horn who is supplemental secretary. Jim Yee is out of town this week in the Atari booth at summer CES exhibition, Chicago.

The gathering was called to order at 7:11pm by Jim A. (pres). Jim asked after new members or visitors and found one. Vic A. reported that STDIO should expect to see approximately \$900 or more from AT87' profits, which should be realized in early July. It was also reported that STDIO made \$45 in new member registration fees and \$260 in disk sales. What to do with the money? Well, Local dealers might offer us an ST at cost. Concerning the PD disk library, Vic offered to service Family Computers. Mike C. says that the necessary work is in progress, and Robin Sherer offered some suggestions about the marketing and promotion of the disks. Joel C. has been looking into STDIO promotion at Bellevue Square, specifically the possibility of representation at the up-coming home show.

June 29th has been turned into a combination New Users Meeting and Track-ball Conversion Class! TB class-- Those who wish to convert a track-ball to mouse controller, as demonstrated by Roger Bedell at a previous meeting, will have to bring a track-ball and a 9-pin joy-stick extension cable. Other tools will be provided.

New Users-- There will be many different tables set up, each demonstrating its own topic. Possible topics: word processing, paint programs, basic desk-top and ramdisk proficiency, MIDI, modems, drawing programs. The disk library will also be available. Note: The more STs, powerstrips, and extension cords that show up, the better. As there were no STs at this meeting the demonstrations were postponed.

Open floor topics:

- * Jim reported that we have 53 members.
- * It was noted that we are not yet listed in the Northwest Computer User.
- * The possibility of a new secretary was discussed.
- * It was reported that Atari stock had split 2 for 1.
- * Vic has seen Star Trek (the game) at Xanth Corp. and says it looks real good.
- * Someone local has the new ROMs. Some of their features were discussed. Maybe we'll get a demo soon!
- * Jim Van Horn is interested in putting together an Assembler SIG.
- * Dave H. announced the date of the next C sig meeting.
- * Jim reported that we are now officially a non-profit organization, and the possibility of becoming members of Cost

Co or Price Savers was discussed.

STDIO June 15th Meeting

This weeks meeting was assaulted by a plethora of ST's in evidence - three were set up at the front tables. Two running Flight Simulator II and one set up for demo and mine taking minutes.

New persons: Nick a representative from SPACE came by. Vic thought there might be some announcements at the WORLD OF ATARI show in San Jose, Mega's maybe. An program 'Financial Plus' has multiple modules, is menu driven, and is real easy to learn, \$295. There was a quote by Jerry Pournelle of BYTE magazine where he reported that the PC ditto was a remarkable product that did indeed emulate the PC effectively, Jerry speculated that an advanced ST computer (68020 based) might emulate the IBM faster than a AT!. Thats a good review! Some new information on PC Ditto will available shortly and supposedly \$89.98. A Brief CES report, was given by myself, there wasn't much ST stuff in evidence and the focus was primarily on the XE game system. More on this subject in an article in this issue. 800 emulation is now apparently going to be available. The word going around is; it will be released into public domain and the source code will be available. There were many reports from people that had talked to the author. Secretary's note: I talked to Darek Mihocha and he said the details are up in the 8-bit section of GENIE. What to do with Atari Trek money? 1040 with color or 520fm and color monitor! 1st of July when we have the money we can discuss it further. A hardware committee was drafted Bob Gammon, Dave H., Bruce N. and Jim Y.

The next meeting, June 29th, is a special beginners night and trackball conversion night. This conversion will let you use and trackball instead of a mouse. Bring a phillips screwdriver, wire cutters, strippers, pliers, soldering iron, electrical tape and desoldering tool of some kind and a multimeter of some kind, if you have one. Supplies are the trackball and, from radio shack or somewhere, a 'Joystick extender' cable. Beginners' Night will be set up with seven machines (and we need more volunteers!): 1. Questions, debug help, printer and disk library (Mike). 2. Using a modem station and how to use session (Craig). 3. Word processing station (Bruce). 4. Paint program station (Joel). 5. Driving the desktop, ramdisks etc..(Dave). 6. Professional E-Z Draw, Cad 2.0 (Jim A.). 7. General stuff.

Meeting Demo's: Micro C-shell is a utility from Beckemeyer that installs over the GEM desktop and is a more conventional command format instead of the mouse commands. This program is very similar to the Berkeley C-shell and UNIX.

Flight Simulator II with 2 computers linked via "null modem cable" was demoed. Using this option both players fly in the same scenery disk and can interact with each other.

T.R.A.C.E.

THE RICHMOND ATARI COMPUTER ENTHUSIASTS

Meets: 2nd Wednesday of the month.

Contact: Terry Schreiber (604) 272-5789

BBS: T.R.A.C.E., (604) 272-5888, 24hr, 300/1200 baud

Mail: P.O. Box 1192, Postal Station A, Delta B.C. V4M3T3; or from the U.S. use: P.O. Box 2037, Point Roberts, WA 98281

* MEETING NOTICE! *
* Summer Break! No meetings during July and August. *
* See you in September! *



BEST ELECTRONICS

HARDWARE:

520ST/1040ST/SF314/SF354/SH204

Atari Service Manual		
SF314/SF354 Disk Drive	C070624	\$40.00
Atari Service Manual 520ST Computer	C026118	40.00
Atari Service Manual 520ST/1040ST Computer	C020118	50.00
Atari Service Manual SC1224 Monitor	C070433	40.00
Atari Service Manual XMM801 Printer	C070435	40.00
Atari Service Manual SMM804 Printer	C070434	40.00
Atari ST Diagnostic Cartridge	CA026297	80.00
Atari ST Diagnostic Assembly complete, Cartridge and Documentation (ST, SF354, SF314, SC1224, SMM804, Loop Back Cables)	C026287	350.00
ST EPROM Cartridge 64K/128K/256K/ROMS	CA030701	15.00
ST Mouse Mat		6.00 - 8.00
ST Mouse House		6.50
ST Clocks		CALL
ST One to Four Meg RAM Upgrades		CALL
Sams Computerfacts Service Manual 520ST		40.00
520ST Mother Board	CA070052	CALL
520ST Power Supply	C070099	60.00
520ST 7 Pin DIN Rt. Angle Power Receptacle		
	C070135	2.50
520ST Power Switch	C061022/C070006/C061913	1.25
520ST Keyboard Assembly	CA070022	90.00
520ST Owners Manual	C026051	6.00
520ST Bottom Housing	CA070016	CALL
520ST Top Housing	CA070020	CALL
520ST Dust Cover		8.50
520ST/1040ST Switch Reset	C070119	2.50
520ST/1040ST R.F. Modulator	C070491	50.00
520ST/1040ST 13 Pin Monitor Rt. Angle Receptacle		
	C070134	3.00
520ST/1040ST 14 Pin Disk Drive Rt. Angle Recept.		
	C070131	3.00
520ST/1040ST 13 Pin Monitor Connector		4.00
520ST/1040ST 14 Pin Disk Drive Connector		4.50
ST/1040ST Rt. Angle Cartridge Connector		
	C070129	4.00
520ST/1040ST DB-19 Rt. Angle Hard Disk Connector		
	C070130	4.00
520ST/1040ST DB-25 Male Modem Connector		
	C070132	1.50
520ST/1040ST DB-25 Female Printer Connector		
	C070133	1.50
520ST/1040ST Keyboard Keycap Kit	C070258	22.00
1040ST Internal Power Supply	CA070059	68.00
1040ST Keyboard Assembly	CA070057	90.00
1040ST Mother Board	CA070097	CALL
1040ST Dust Cover		8.50
68 Pin Square I.D. Socket	C070120	6.00
ST I.C. Retention Clip, 69 Pin Square I.C. Socket		
	C070718	.50
3 1/2" SSD Epsom Drive Transport	C070219	128.00
3 1/2" DSD Newtronics Drive Transport	C070350	165.00
3 1/2" DSD Chilton Drive Transport	C070352	165.00
SF300 Series Disk Drive Power Supply	C070091	45.00
SF300 Series Drive I/O Board	CA070063	40.00
SF354/SF314 Disk Drive Dust Cover		8.50
SF354 Owners Manual	C026052	2.00
3 1/2" Dyan Alignment Disk, SSD		40.00
3 1/2" Dyan Alignment Disk, DSD		55.00
ST Series Mouse	CA070025	50.00
ST Series MIDI 5 - 6 Ft. Cable		6.00
1040ST/SH204/SM124 Power Cord	C070349	6.50
1040ST/SH204 Hard Disk 1 to 2 "Y" Power Cord		10.00
SH204 Hard Disk I/O Cable	C026170	24.00

CONNECTOR/RECEPTACLES

5 Pin DIN Rt. Angle Receptacle (Monitor/ST Midi)	C014388	\$ 1.00
7 Pin DIN Rt. Angle Receptacle (XL/XE)	C010448	1.25
7 Pin DIN Connector (XL/XE Power Supply)		1.20
7 Pin DIN 520ST Rt. Angle Power Receptacle		
	C070135	2.50
9 Pin DB-9F Joystick Receptacle		
	C010448/FK100307/C019062	1.10
9 Pin DB-9F Female Connector (850)	C015581-09	1.30
DB-19 520ST/1040ST Rt. Angle Hard Disk Connector		
	C070130	4.00
DB-19 520ST/1040ST Solder Cup Connector		3.50
DB-19 520ST/1040ST Hoods		1.50
DB-25 520ST/1040ST Modem Connector	C070132	1.50
13 Pin I/O Cable Connector		3.00
13 Pin I/O Receptacle	C012995	2.50
13 Pin 520ST/1040ST Monitor Connector		4.00

13 Pin 520ST/1040ST Rt. Angle Receptacle		
	C070134	3.60
14 Pin 520ST/1040ST Disk Drive Connector		4.50
14 Pin 520ST/1040ST Disk Drive Receptacle		
	C070131	3.75
15 Pin DIN Joystick Receptacle (5200)	C018013	1.30
15 Pin DIN Female Connector (850)	C015581-15	2.00
16 Pin Double-sided Header w/Gold Plated Pins		1.25

CABLES

1 Foot I/O Cable (drive to drive)		\$10.00
Atari 3 ft. I/O Cable	CA014122	10.00
CX81 6 ft. I/O Cable	CA015900-01	12.00
CX89 Color Monitor Cable		9.00
Atari CX86 825 Printer Cable	CA015900-02	15.00
Atari CX87 Modem Cable (DB-9 to DB-25)	CA015900-03	12.00
Atari CX88 Terminal Cable (DB-9 to DB-25) 850 to Printer Cable (DB-15 to Centronics Connector)		15.00
Monitor Cable (5-pin DIN to 4 RCA connectors)		4.50
"Y" Paddle Cable	C010810/FK100305	3.00
Joystick Cable (6 cond.)	CA018145/FK100306	1.50
Joystick Cable (8 conductor 1-inch leads, #8 wire clipped)		3.00
Joystick Cable (9 conductor)		3.95
Joystick "Y" Cable Adaptor (1M to 2F)		8.00
1040ST 6" - 12" Joystick/Mouse Ext. Cable		8.00
1040ST 12" Joystick/Mouse "Y" Cable (2M to 1F)		8.00
520ST/1040ST 3 ft. Disk I/O Cable	C070139	16.00
520ST/1040ST 6 ft. Disk I/O Cable		18.00
520ST/1040ST Monitor Cable	C070264	20.00
520ST/1040ST 6 ft. Printer Cable		10.00
520ST/1040ST 12 ft. Printer Cable		18.00
520ST/1040ST 6 ft. Modem Cable		12.00
520ST/1040ST Hard Disk I/O Cable	C026170	24.00
ST Series Midi 5 - 6 ft. Cable		6.00
Midi or Monitor 6 ft. Extension Cable		6.00
3 ft. to 15 ft. Coiled Joystick/Paddle Extension Cable (1M to 1F)		10.00
6 ft. or 12 ft. Joystick/Paddle Ext. Cable		5.00 / 7.00
10 ft. or 20 ft. Joystick/Paddle Ext. Cable		6.00 / 8.00
850 to Printer 6 ft. Ext. Cable (DB-15F to DB-15M)		9.00
850 to Printer 12 ft. Ext. Cable (DB-15F to DB-15M)		12.00
5200 Controller Cable Assembly	CA018145	4.90
6 ft. or 12 ft. 5200 Joystick Ext. Cables		9.00 / 12.00

HARDWARE: Controllers/Accessories**

Atari Paddles	CX30	\$12.00
Atari Paddle Label	C012766	.20
1 Meg Potentiometer for Paddles	C010464	1.00
"Y" Paddle Cable	C010810/FK100305	3.00
Paddle Knob	C010457	2.00
Paddle Fire Button	C010739	.75
Paddle Switch	CA011620	.75
Atari Joysticks (ea.) Call for any price change	CX40	9.00
Atari Remote Control Joysticks	CX42	30.00
Atari Proline Joystick	CX24 (ea.)	12.00
Joystick "Blaster" Module w/Adjustable Fire Rate Control		4.00
Wico Arcade Heavy Duty Joystick (Requires mounting)		12.00
Arcade Heavy Duty Fire Button		CALL
Atari Joystick Rubber Boot	C012109	.75
Atari Joystick Handle	C012116	1.25
Atari Joystick Rubber Feet (Set of 56)	88-1004	1.30
Atari Joystick P.C. Board	CA015396/CA012111	1.25
Atari Joystick Rebuild Kit (1 p.c. board & handle)		2.00
Joystick/Paddle "Y" Cable (1M to 2F)		8.00
Atari Joystick Cable (6-cond.)	CA014058/FK100306	1.50
Atari Joystick Cable (8-conductor, #8 wire clipped/1-inch leads)		3.60
6 ft. or 12 ft. Joystick/Paddle Ext. Cable		5.00 / 7.00
10 ft. or 20 ft. Joystick/Paddle Ext. Cable		6.00 / 8.00
3 ft. to 15 ft. Joystick/Paddle Coiled Ext. Cable		10.00
Atari 2600 CX55 Keyboard Controllers		
	CA012758 pr.	8.00
5200 Joystick Controller	CX52 ea.	27.00
5200 Joystick 6 ft. or 12 ft. Extension Cables		9.00 / 12.00
Atari 850 Interface	A850	125.00
Atari 1050 Disk Drive (Call for Price Changes)	A1050	159.00
Sams Computerfacts Service Manual		
1050 Disk Drive		20.00
1050 Dust Cover		8.50
Atari XM301 300 Baud Direct Connect Modem		
	XM301	49.95

Atari 300/1200 Baud Modem	SX-212	99.00
Atari 80 Column Unit w/Parallel Printer Port For use w/High Resolution Monitors	XEP-80	79.00
CX85 Keypad	CX85	12.00
CX85 Keypad Field Service Manual	FD100176	30.00
Atari Light Pen	CX75	40.00
Atari Touch Tablet	CX77	50.00
Atari Touch Tablet Mylar		2.00
Atari Touch Tablet Pen		9.00
ICD PR Connection		79.00
ICD 1050 US Doubler		39.00
ICD 1050 US Doubler w/Sparta DOS Construction Set		
		69.00
ICD Sparta DOS Construction Set		39.00
ICD 800XL/1200XL 256K Rambo XL (Less RAM)		39.00
ICD R-Time 8 Clock Cartridge w/Battery		69.00
ICD Sparta DOS X Cartridge (DOS Cart)		69.00
ICD Multi I/O Box, RAM Disk, Parallel Printer Port, Modem Port Spooler, Hard Disk Interface (XL/XE Computers)		
	256K Model	199.00
	1 Meg Model	349.00
ICD Multi I/O Box 130XE Adapter Board, Adds 2 extra Cart. Slots		19.00
ICD Multi I/O Box 80 Column Plug-In Board, Monochrome & RGBI Monitors		99.00
Kid's Keyboard Controller	CX23	8.00
Expand-A-Port P.C. Board: adds extra SIO Connectors to Daisy Chain		CALL
Video Touch Pad		CX21 8.00
Track Ball Controller	CX22 (ea.)	15.00
CX22 Track Ball Field Service Manual	FD1006600	20.00
Indy 500 Driving Controller	CA010866	10.00
Sears Arcade II Hand Controller	CA018292	12.00
7800 Controller Cable		3.50

DISK SUPPLIES

3 1/2" Disk Mailers (up to 5 disks, 200 lbs test cardboard)		\$.70
5 1/4" Disk Mailers (up to 5 disks, 200 lbs test cardboard)		.80
Disk Hub Rings	20 for	1.10
3 1/2" Disk Labels		CALL
3 1/2" Plastic Disk Holder (5 disks)		1.00
5 1/4" Disk Labels (5 colors w/write protects)	20 for	.75
5 1/4" Plastic Disk Holder/Display (12 disks)		1.00
5 1/4" Disk Sleeves	50 for 2.50, 100 for 4.00, 500 for 15.00	
Quorum 5 1/4" Disk Notcher (all metal construction)		11.95
5 1/4" Disk Notcher (plastic & metal construction)		6.00

BEST ELECTRONICS does expert repairs on most Atari products. Typical repair cost is half to one-third compared to a service center. We act as a sub-contractor for Atari repairs to many Atari Service Centers throughout the United States. With our large Atari parts inventory, many service centers find they can not beat our prices, quality or turn-around time, including shipping charges. Give us a call for further information on repairing your Atari product.

SHIPPING INFORMATION: Our terms are Money Orders/Certified Checks for first-time orders, personal check for subsequent orders (No credit card sales). The fastest way to receive your order is to have it shipped U.P.S. C.O.D. (\$2.00 charge). Most phone orders are shipped within 24 hours! On prepaid orders include the Ship To Address, ZIP Code, an Area Code/Phone Number and the appropriate Shipping Charges, if any. The lack of these items could mean a long delay in processing your prepaid order. Best Electronics pays the shipping charges on orders of normally stocked items (this catalog) totaling \$25 or more within the Continental United States. Shipping Charges are NOT prepaid on sale items, sale specials, repairs, dealer sales or orders over 8 lbs. in weight. Minimum sale is \$5.00.

** We suggest you call us for the current stock levels of items you are ordering! California residents add the appropriate 6, 6 1/2 or 7% sales tax. We ship U.P.S. Brown Label (ground) (freight prepaid orders) and Blue Label (2-day air). U.S. Mail, Express Mail or U.P.S. Next Day Air shipments are available.

BEST ELECTRONICS
2021 The Alameda, Suite 290
San Jose, CA 95126
(408) 243-6950

S * P * A * C * E

P.O. Box 110576
Tacoma, WA 98411-0576

*** Time Dated ***
Address Correction Requested

XG
S.L.C.C.
ATTN: Editor
P.O. Box 1506
SAN LEANDRO, CA 94577-0374

BULK RATE
U.S. Postage
PAID
Tacoma, Wa.
Permit No. 776



JULY 1987



FUGET SOUND ATARI ACTIVITIES

SUN**MON****TUE****WED****THU****FRI****SAT**

			1	2	3	4 INDEPENDENCE DAY
5	6 STDIO MEETING 7 PM DATA IO, REDMOND	7 SPACE ST SIG MEETING 6 PM BUTLER'S, FEDERAL WAY	8 KC-ACES MEETING, 7PM AT WEST PARK LANES, BREMERTON	9	10 STAR- BASE MEETING, 6 PM MOUNTLAKE TERRACE LIBRARY THEME: "BBS"	11 SPACE TACOMA MEETING, 10 AM SOUTH END NEIGHBORHOOD CENTER, TACOMA
12	13 BRACE MEETING 7 PM LAKE HILLS LIBRARY, BELLEVUE	14	15	16 PSAN AUGUST NEWSLETTER INPUT DEADLINE! BECOME FAMOUS, WRITE FOR PSAN!	17	18 R-ATARI MEETING, 7 PM AT THE YMCA, OAK HARBOR MOD CLINIC, 12AM PRECISION ELECTR
19	20 STDIO MEETING 7 PM DATA IO, REDMOND	21 SPACE ST SIG MEETING 6 PM BUTLER'S, FEDERAL WAY	22	23	24	25 SPACE HARDWARE SIG MEETING 10 AM SOUTH END NEIGHBORHOOD CENTER, TACOMA
26 20 ANNUAL STAR- BASE PICNIC EDMONDS CITY PARK	27 BRACE MEETING 7 PM LAKE HILLS LIBRARY, BELLEVUE	28	29	30	31	

SUPPORT YOUR CLUB - BRING A FRIEND TO THE MEETING!